TANZANIA MANUFACTURING SECTOR IN RESPONSE TO TRADE LIBERALIZATION: A CASE OF PHARMACEUTICAL MANUFACTURING

By

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A Dissertation Submitted to Dar es Salaam Campus College in the Partial Fulfilment for the Award of Master Degree of Business Administration (MBA) in Mzumbe University

2014

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by Mzumbe University, a dissertation entitled **Tanzania manufacturing sector in response to trade liberalization: A case of pharmaceutical manufacturing** in partial fulfilment of the requirements for award of the degree of Master of degree Business Administration (MBA) of Mzumbe University.

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I, George Gesoreka, declare that, this dissertation is my own original work and that it has not been presented to any other university for a similar or any other degree award.

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Date_____

ACKNOWLEDGEMENT

My first and foremost thanks go to the almighty God for giving me strength, courage to pursue my studies and conducting this research study. I also thank my family especially to my wife Dr Deodata Matiko for supporting me morally and spiritually during the whole period of my studies and during the research study. Their encouragement, advice and support enabled me to put in effort which enabled me to conclude the study successfully.

My sincere gratitude to my Supervisor Mr Lusekelo for the valuable advice, guidance and more important for the encouraging comments he always suggested to me on preparation and conduct of this dissertation. His constructive criticism, invaluable patience, intellectual guidance and support helped me not only to accomplish this study, but also come up with the expected standards. Sincerely, he deserves all kinds of credits and appreciation.

Furthermore, my thanks also go to all those who have contributed to this research study in one way or another, such as my fellow students and colleagues in the preparation of this paper. I am also gratefully to the management and members of Pharmaceutical manufacturing firms for giving me permission to conduct this study at their places and accepting to participate in this study as respondents. However, many individuals contributed in different ways in making this work a success and are very much appreciated.

DEDICATION

I dedicate this work and the effort to the most understanding and caring people who facilitated my academic success. This includes my parents and my wife who at all times supported me throughout my study.

LIST OF ABBREVIATIONS

5F	Five Forces
APIs	Active Pharmaceutical ingredients
ARV	Antiretroviral
CEO	Chief Executive Officer
GCLA	Government Chemist Laboratory Agency
GDP	Gross Domestic Product
IMF	International Monetary Fund
ISIC	International Standard Industry Classification Code
IT	Information Technology
ITM	Institute of Traditional Medicine
LDC	Least Developed Country
NIC	Newly Industrialized Country
MDG	Millennium Development Goal
MSD	Medical Store Department
MSH	Management Sciences for Health
MUHAS	Muhimbili University of Health and Allied Sciences
MOHSW	Ministry of Health and Social Sciences
SAP	Structural Adjustment Programme
SIDP	Sustainable Industrial Development Policy
SSA	Sub-Sahara Africa
TDHS	Tanzania Demographic Health Survey
TFDA	Tanzania Food and Drug Authority
TNHP	Tanzania National Health Policy
TRIP's	Trade Related Intellectual Property Rights
UNCTAD	United Nations Commission of Trade and Development
UNIDO	United Nations Industry Development Organisation
WTO	World Trade Organization

ABSTRACT

Limited access to essential drugs undermines the health systems, efficiency and health development in many developing countries including Tanzania. The major factor associated with limited drug accesses is the high price of medicines. The ability of local pharmaceutical industries to manufacture essential drugs is an important contributor in facilitating access and affordability of medicines. Currently, Tanzania's local manufacturers can only meet 30% of the country's need of essential medicines despite having eight pharmaceutical manufacture ring companies.

Semi structured questionnaires were issued to Chief Executive Officers/General Managers from the manufacturing pharmaceutical companies available in Tanzania as a method of primary data collection, secondary sources were also used. Data obtained were analysed using Statistical Package for Social Scientist (SPSS) and presented in form of tables, construct graphs, pie chart and histograms.

The challenges identified by Tanzanian manufacturers were comparable to the findings of studies conducted in other developing countries. What was unique in this study was that higher operating cost and shortage of capital were among the challenges that manufacturers perceived as hindering increased capacity. In addition, poor government support was also a challenge. These challenges hindered increased production of essential drugs.

Linkage with other partners and the information sharing among manufacturers are the opportunities that local manufacturers enjoy. Export was found not to be very important opportunities that local pharmaceutical manufacturers exploit and the level of competition between local and foreign pharmaceutical manufacturers was found to be high.

To increase capacity of local manufacturers a multi-sectorial approach is needed to address the above identified constraints. A concentrated effort therefore should be put in by both parties i.e. the government and local manufacturers for Tanzania to become self-sufficient in terms of the manufacturing of essential drugs.

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CHAPTER ONE

PROBLEM SETTING

1.1 Overview

The term trade reform and trade liberalization used interchangeably in this study since many literatures viewed so far have discussed trade reform as trade liberalization. In brief the term trade liberalization has been defined differently by various scholars such as Mackay et al. (1997:131) defined trade liberalization as the removal of restrictions on imports and reduction of discrimination against export. On other hand Zulfiqar and Kausar, (2012: 32) defined Trade liberalization as the reduction and gradual elimination of tariff and non tariff trade barriers which may obstruct the free flow of goods and service across national borders. Not only Mackay et al as well as Zulfiqar and Kausar defined trade liberalization but also World Bank 2001 cited in Allaro, (2012) defined trade liberalization as reduction of government incentives and trade restrictions between trading countries.

Generally, we can summarize trade liberalization as the removal or reduction of trade barriers which prevent the smooth trade transactions of goods and services among trade partners. Trade barriers removed or reduced under trade reform include tariff and non tariff. On top of that non tariff under trade reform includes duties, import quotas, export subsidies and import regulations such as licensing regulations amongst others. In tandem with the definitions above, this study considered trade reform as the tendency of Tanzanian government to relax trade restrictions to nearly free trade among trade partners so as to prosper from trade reform policy. This chapter covers context of the study, statement of the problem, research question (s), research objectives and significance of the study that is the Tanzania Manufacturing Sector in Response to trade Liberalization where by the Pharmaceutical manufacturing Sector will be the Case Study. It generally introduces key aspects involved in the study and the motive behind undertaking of this task.

1.2 Background of the Study

Trade liberalization, is a policy that allow free international flow of goods and services, is argued to promote competition, improve resource allocation and generate pressure for increased efficiencies, product improvements and technical change thus raising productivity and enhancing overall economic growth. Today, pharmaceutical business is among greatest businesses of the world.

Tanzania has evolved from a one-party socialist state in the 1960s to a multiparty democracy in 1992. This political evolution was accompanied by economic reforms in an attempt to combat poverty. Over 50 percent of Tanzanians live in extreme poverty, surviving on less than one U.S. dollar (USD) per day (USAID, 2003). According to (Dairy News newspaper, 2013), 65% of Tanzanians live below poverty line and this is due to unemployment and difficult living condition. The poverty in Tanzania is reflected through the developmental indicators which show that; life expectancy had fallen to 44 years by 2001, from 50 years in 1990, and the infant mortality rate declined by 42 percent, from 88 deaths per 1,000 live births in 1992-1996 to 51 deaths per 1,000 live births in 2006-2010 (TDHS, 2010).

For the purposes of this research, pharmaceutical production shall refer to the production of medicines based on modern chemical and biological processes, as opposed to traditional medicines. Local production shall mean the manufacture of pharmaceuticals in a developing country, whether by a locally owned firm, by a joint venture or by a foreign firm. Since its independence in 1961, Tanzania has recognized the importance of improving the health status of its people as a means of combating poverty. The government evolved policies and mapped out strategies of ensuring the improvement of the public health (TNHP, 2007).

Improving public health was among the strategies of the health sector reform of 1994. The main purpose of this reform was to improve health services through partnership between the public sector and private institutions. As a result number of legislative reforms and amendments were instigated, among which was the amendment of the Pharmaceuticals and Poisons Act No. 9 of 1978. This act was

made as a means to improve the availability, accessibility and affordability of essential medications in Tanzania (Makundi, 2005). There have been amendments of the International Intellectual Property Right.

Despite the TRIPS agreement The Tanzanian pharmaceutical industry is still in its infancy. Currently the Tanzanian pharmaceutical industry is only able manufacture 30% of the essential medicines requirements of the nation (MOHSW, 2010). The reasons behind this low production capacity, is unclear. The TRIPS agreement itself could be challenge although it was viewed as a golden opportunity to build up the local pharmaceutical industries in Tanzania. However, careful scrutiny of the TRIPS agreement highlights that under the terms of the agreement, lifesaving products such as pharmaceuticals are treated in the same way as any other merchandise or commodity. This prevents governments, representatives of nongovernmental and international organizations from accessing medicines and other health-care products. Furthermore, granting of patents which encourages innovation also creates monopolies that allow pharmaceutical companies to set and maintain high prices for a minimum of 20 years. This has the effect of hampering competition, delays in the production and release of low-cost generic equivalents onto the market; the main stay of lower cost medicines meeting the income needs of developing countries. In addition parallel imports block for LIC's and MIC's to make essential medicines more affordable because the branded medicines will compete with the generics that are locally manufactured.

1.3 Statement of the Research Problem

Manufacturing plays an important role in the economy and is often characterized as the *sine qua non* of development, a country that does not develop its manufacturing industry is dependent on primary exports, and most primary exports are subject to price volatility and long-run deterioration of the terms of trade. In the era of trade liberalization Tanzania has turned to be heavily dependent on external import even to the primary health care products. Despite high demand of pharmaceutical products, medical appliances and laboratory reagents in both Public and Private healthy facilities in Tanzania, no initiative from neither domestic nor external investors is

taking place to make use of that opportunity. However the reason why entrepreneurs don't invest in Pharmaceuticals manufacturing despite high level of internal and external market opportunities is not known.

The manufacturing sector in Tanzania is relatively small, with an annual growth rate of around 5 percent and GDP contribution of 8 percent, which is way behind the 40 percent contribution to GDP envisaged by the National Development Vision 2025 (UNIDO, 2001). Also in a UNIDO report (1996), it was declared a Sustainable Industrial Development Policy 1996-2020 (SIDP), which laid out the future discourse of industrial development in Tanzania, was launched. The main purpose of SIDP is to set out a path for industrializing Tanzania so that by 2025 it becomes a semi-industrialized country with a broadly defined industry, accounting for over 40 percent of GDP.

1.4 Research Questions

The research is seeks to answer the following questions

1.4.1General Research Question

How Tanzania Pharmaceutical Manufacturing firms responds to Trade Liberalization?

1.4.2 Specific Research Questions

This dissertation focused on answering these research questions related to the purpose for an easier analysis and resulting conclusion.

(i) What opportunities are there in Pharmaceutical Manufacturing sector in Tanzania?

(ii) How Pharmaceutical Manufacturing firms compete and survive in liberalized business environment?

(iii) What challenges do face Pharmaceutical Manufacturing sector in Tanzania?

1.5 Research Objectives

The following are the purposes for undertaking this research;

1.5.1 General Objective

The general objective of the study is to assess how Tanzania Pharmaceutical Manufacturing firms responds to Trade Liberalization.

1.5.2 Specific Objectives

(i) To evaluate opportunities present in the Pharmaceutical Manufacturing sector in Tanzania.

(ii) To find out the level of competitiveness and survival of Pharmaceutical Manufacturing Firms in liberalized business environment.

(iii) To determine challenges facing Pharmaceutical Manufacturing industry in Tanzania.

1.6 Significance of the Research

Investment in the pharmaceutical sector will not come on its own, especially for LDCs; concerted efforts led by government will be necessary for countries that seek to attract foreign direct investment and technology transfer. It is important to have a unified and coherent position among key stakeholders on important objectives at the outset of any such efforts.

(i) Because the institutional framework for the regulation, the manufacture and distribution of pharmaceuticals is fragmented, key government ministries and agencies will need to agree on the rationale and strategy for promoting local production through improved coordination and policy coherence.

(ii) The proposed study is significant because the expected findings and recommendations will broaden the scope of knowledge of the researcher to understand how local pharmaceutical industries face challenges and how they strive against those challenges in the present trade liberalization era.

(iii) The study will also find out the reason why despite a wide market demand of Pharmaceutical products in the country there is no investor interest to invest in pharmaceutical manufacturing.

(iv) Findings will enable the researcher to make recommendations that will sensitise investors to come and invest in Pharmaceutical manufacturing sector in Tanzania.

(v) Findings from this study may also help in the formulation of strong policies to promote the increase of production of essential medicines by local pharmaceutical industries.

(vi) Increased production would in turn induce competitive local production and inadvertently promote the availability and affordability of essential medicines in the market and therefore decreasing the dependency on importation as a means to implement price regulation.

1.7. Limitations/Delimitations

Although this research will be carefully prepared, the researcher is still aware of the limitations and shortcomings that might be going to happen.

(i) First of all, the research has been conducted in the diverse geographical environments of the country where different pharmaceutical industries are located.

(ii) Therefore the issue of time has posed a central problem to this research. Since the researcher is an employee, the two will be interfere to each other. So it would be better if it would have been done in a longer period of time. To solve this, the researcher has collected data mainly on Saturdays, the day which will be convenient for that purpose.

(iii) Second, the Limited resources in terms of funds, and other resources is another limitation to the researcher because some of the pharmaceutical industries are located outside Dar Es Salaam, to reach them it needs funds for travelling and other contingencies. This limitation has been solved by imposing a reasonable schedule that reduced cost during data collection.

CHAPTER TWO

LITERATURE REVIEW

2. 1 Overview

The review of literature analyses in detail the work that has been done by other researchers in the topic of interest. Literature means writings and a body of literature refers to all the published writings in a particular style on a particular subject.
Literature reviewed typically includes scholarly journals, scholarly books, authoritative databases and primary sources. Sometimes it includes newspapers, magazines, other books, films, and audio and video tapes, and other secondary sources.

This study highlights the views of different academicians, researchers and scholars that will be advanced in Tanzania manufacturing Sector in response to trade Liberalization in order to improve efficiency and service delivery. In this study, the review of literature is divided into three parts, Theoretical Literature review and Empirical literature review and conceptual framework, The theoretical literature review explains various secondary data related to the topic including information from books, journals, regulations, newspapers, internet and alike, while Empirical literature review concerns with other researcher's work related to the study and conceptual relationship between independents and dependents in the study.

2.2Theories of Trade and Industrialization

2.2.1. Conventional Trade theories

The traditional theory of international trade, as espoused by David Ricardo at around 1816 and subsequently developed and refined by Heckscher and Ohlin (H-O) in the 1920's and other neoclassical economists is based on the principle of comparative

advantage. According to the comparative advantage principle the pattern of specialization and international trade is a function of the relative costs of production and of labour productivity. In the recent history this principle has had powerful influence on economic policy and advocates of this theory urged that government intervention was not only unnecessary but also inefficient, as it would interfere with the country‘s natural area of comparative advantage. —Opening up“in the Ricardian theory results in specialization in the commodity that each country produces relatively more efficiently.

The realities in today‘s world however, have disqualified many of the assumptions on which these conventional theories were based on. Assumptions made by the neo-classicists such as the static nature of international exchange, the international immobility of factors of production, fixed and freely available technology and consumer sovereignty, internal factor mobility and perfect competition and absence of national governments in trading relations have proved to be far from what is happening in today‘s international markets. For an instance, no explanation could be given on the pattern of faster growth in North-North trade, which have similar economies, and factor endowments and where many of the industries consisted mostly of similar goods contrary to the comparative advantage principle. It is these deficiencies that led to a movement to new theories of trade.

2.2.2. New trade theories

It has increasingly been admitted that the conventional trade theory is in several ways inadequate to explain what is actually happening in the real world (Helpman & Krugman, 1985; Porter, 1990). The new trade theories have recognised the importance of economies of scale, the associated market structures and technological capabilities in analysing trade issues. It is argued that economies of scale within firms are incompatible with the perfect competition model, and that many markets have monopolistic competition and as monopolistically competitive markets expand, it does through a mixture of more firms (more product variety and differentiation) and bigger firms with bigger economies of scale. Free trade expands market size beyond national borders and so allows firms to reap bigger economies of scale.

Similarly, economists have argued that improvements of productivity in an economy were endogenous, meaning that they were a result of things taking place within the economic model being used and not merely assumed to happen as in the case of neo-classical models. Endogenous growth they argued was due to innovation and investments in human capital. The new growth theory concludes, —A country‘s pattern of development and trade in the long run may reflect, among other things, the resources that are devoted to industrial research and accumulation“ (Haque *et al.* 1995). In looking at the differences between rich and developing countries, the new growth theory concentrates on what incentives exist in an economy to create additional human capital and to invent new products. Government policies are part of the incentives in an economy; implying that developing countries governments through conscious efforts e.g. through industry policies can proactively act to foster and sustain industrial and economic growth.

2. 3. Trade liberalization and industrial performance

Developing countries have given high priority to their industrial performance in order to improve their economic performance (Pack, 1986; Singh, 1982). The high priority accorded to industrial development was supported by early development economists, who believed large investments in industrial sectors combined with import substitution policies, so that developing countries could benefit from extended economies of scale and technical progress (Meire and Seers, 1984). Inward looking policies (import substitution) however proved unsuccessful and a more outward looking strategy (export oriented) was adopted in many developing countries.

There is a general agreement among neoclassical economists that trade liberalization leads to greater efficiency. Proponents of trade liberalization argue that liberal trade policy gives the right price signals, increases competitive pressures on the manufacturing industry to improve their efficiency and competitiveness. As a result, these industries will be able to compete on the world market, increase exports and thus increase welfare of their societies (Sharma, 1999).

In the short run, trade reform is assumed to produce positive once and for all gains in

output and incomes through initial incentive effects on existing operations. In other words, the threat of potential competition or the actual entry of competing imports into the domestic markets is likely to push previously protected domestic producers to improve their efficiency. In the medium term (i.e. after five years of trade reform), resources in the economy will be reallocated in response to the new set of relative prices that obtain after the removal of trade controls. Resources will shift out of sectors whose relative prices fall with liberalization and into those whose relative prices rise, leading to maximized productivity (Weiss, 1995). In the longer term (after ten years), it is expected that there will be dynamic gains associated with trade liberalization, so that the liberalized economy moves to a higher growth path. This is based on the argument that firms have greater economies of scale for producers through sales to the world market and faster technological change from a more competitive productive environment (Folsade, 2002). This argument in support of trade liberalization is no doubt persuasive, but the empirical evidence is not at all definite. Several recent overviews of the link between trade regimes and performance of the industrial sector show that the evidence is weak, mixed and inconclusive (Bagachwa, 1995; Shaffedin, 1995).

2.4. General experiences with trade liberalization

Empirical literature shows that the impact of trade liberalization on the manufacturing sectors varies across countries, depending on historically accumulated production capabilities of the manufacturing industries and the institutional and regulatory environment. Experiences with market liberalization in LDC‘s makes clear that successful industrialization requires more than only opening up the economy to the forces of the world markets (de Groop *et al.*, 1999). The drastic decline in Africa‘s market share in global trade and the little change towards skill or technology intensive manufactured exports of Africa during 1985-1995 (UNIDO, 1996) suggests failure of Africa to compete successfully in primary goods and manufactures raising the question whether SAP‘s were sufficient to stimulate Africa‘s exports.

Various studies on manufacturing industries of SSA indicate that the manufacturing

sector has not responded actively to the liberalization policies (Shafaeddin 1995). Other studies have also indicated that there has been little evidence that SAP has improved efficiency and competitiveness of manufacturing industries in many developing countries (Shafaeddin, 1994; Lall, 1995; Mlawa, 1996; Lall and Latsch, 1998; Sharma, 1999).

The study by Lall *et al.* (1995) noted that although external shocks and inappropriate policies have influenced the performance of African industry, the widespread absence of competitiveness and technological dynamism is also explained by other constraints related to the lack of capabilities needed to set up modern industry and operate it efficiently. Overall, little attention was given to the need for supportive policies, which could complement market forces in ensuring technological dynamism and manufacturing competitiveness.

Biggs *et al*. (1995) studied the technological capabilities and learning in African enterprises and they argued that improving price structure and increasing competition through trade liberalization, and privatizing public enterprises are unlikely to be sufficient for successful industrial development in Africa. They concluded that for African firms to be competitive in the world market, specific performance and time based policies for protection of infant industries should be in place to enable their technological competency reach international levels.

The experience is however different with Asian countries. In many Asian countries trade liberalization was effective in improving the efficiency and competitiveness of the manufacturing sectors (Jeon, 2000; Urata and Yokota, 1994; Osada, 1994 and Okamoto, 1994). These studies suggest that the manufacturing industries responded positively to trade liberalisation because they had already built the capability to respond actively to market price signals.

2.5. Experiences with Trade Liberalization in Tanzania

Adapting to the new trade regime has proved difficult for manufacturing sector in Tanzania. Firstly, it is argued that because trade liberalization was not a result of careful deliberation by regulators but an externally imposed measure, it may largely

be uncorrelated with the potential future industry-specific performance. Evidence can be seen in the poor sequencing and synchronization between the industrial policy and other macro-economic policies during the reform process in Tanzania. For an instance while exchange rate reforms (i.e. devaluation of the Tanzanian Shilling) were being implemented, there was no simultaneous harmonising of import regulations and procedures, this proved harmful to domestic industries producing for domestic market, because it increased the price of imported inputs and raised production costs and thus failed to raise the export competitiveness of domestic industries for which it was intended. Semboja (1998) in his study of the textile industry identified some fiscal policy weaknesses, which included multiplicity and cascading indirect taxes on locally manufactured garments, and tax exemptions on some imported goods. He further argued that corruption by custom officials played a significant part in upstaging the competitiveness of imported garments vis-à-vis domestic produced garments.

Furthermore, absence of industrial policy to support domestic firms in dealing with the new business conditions at the time of import liberalization, led to decline in domestic manufacturing firms following flooding of local markets with cheap imports that displaced local production and goods. Semboja (1998) further suggested that the absence of an industrial policy with a clear fiscal policy thrust and a framework on protection of domestic industry contributed to the erosion of level playing field of manufacturers in Tanzania.

Wangwe *et al.* (1997) note that there was recovery in industrial output in the later half of the 1980‘s due to foreign resource inflow, which accompanied economic reforms, but this growth recovery could not be sustained. This was largely because the initial source of this growth momentum was based on the better utilization of existing capacities rather than industrial competitiveness (Wangwe, 1995). This growth however did not evolve into significant industrial restructuring and capability acquisition, and the growth spurt of 1991-1992 came to a substantial slowdown. Lall (1995) notes that similar petering out of growth occurred in major adjusting countries in SSA.

Similarly, Komba, 1999 in a study of structural change and competitiveness of Tanzanian manufacturing sector established that the implementation of structural adjustment policies has not resulted in significant shifts in the structure of manufacturing industries rather he found that the implementation of SAP had adverse impact on structures, performance and competitive behaviour of manufacturing firms. As a result he concluded performance of Tanzania‘s manufacturing industries remains lacklustre and uncompetitive by any measure.

Kweka *et al.* (1997) argue that the introduction of macroeconomic and sub-sectoral reforms such as import liberalization was of little help in the entire need to establish a viable industrial base for a sustainable future of the manufacturing industry in the country. In the conclusions of their study they continue to suggest that there was a systematic de-industrialization of the manufacturing sector.

2.6 Trade Experience with Tanzanian Pharmaceutical Manufacturing Sector

Participation of Tanzania in international trade in manufactures has been mainly through imports. Manufacturing imports consist mainly of fabricated metals and machinery, which account for 51 percent of the manufactured imports. Other significant imports include chemicals, petroleum, rubber and plastics (23 %), (UNIDO 2001).

Most of the pharmaceutical production done in the Tanzania local industries concentrates on less sophisticated medicines such as simple antibiotics, cough and cold preparations, analgesics and antipyretics, sedatives, nutraceuticals, antihelmintics and antimalarials (MSH, 2001). More technologically sophisticated pharmaceutical products like Intravenous (IV) fluids, injectables, and more advanced antibiotics like cephalosporin are imported, as our local industries, still lack the ability to produce them (Mhamba et al, 2010).

Currently, there are Seven Pharmaceutical industries in Tanzania, out of which two are non operative, these includes Shellys Pharmaceuticals, Keko Pharmaceuticals, Zenufa Laboratories, Mansoor Daya Pharmaceuticals, Tanzania Pharmaceuticals

(non operative), Tanzansino Pharmaceuticals (non operative) If the current seven manufacturers were functioning at full capacity, they would be capable of catering for supply and demand of most of the essential medicines required in Tanzania.

However in 1993, the domestic pharmaceutical production was only worth USD 7.2 million, It climbed to an estimated USD 11.8 million in 2000, indicating a rise in total market share for domestically produced medicines from 14 percent to 20 percent (SGC Consulting, 1995). Despite this increase, the combined market share for these local manufacturers was not more than 30%, of all essential the pharmaceuticals required in Tanzania. As a result 70% of the national drug requirement is imported (MOHSW, 2010). This high percentage of importation affects the pricing of the medicines since the Government practices a "free market economy". According to Mhamba and Mbirigenda, (2010), Tanzania imports about 70% of the national drug requirement and local production accounts for about 30%. The pharmaceutical sector in Tanzania consists of eight manufacturing industries all producing generic pharmaceutical products using *imported* active pharmaceutical ingredients (APIs). Most of the APIs are imported from India and China. Pharmaceutical products from India dominate the share of drugs in the local market registered by the Tanzania Food and Drugs Authority (TFDA).

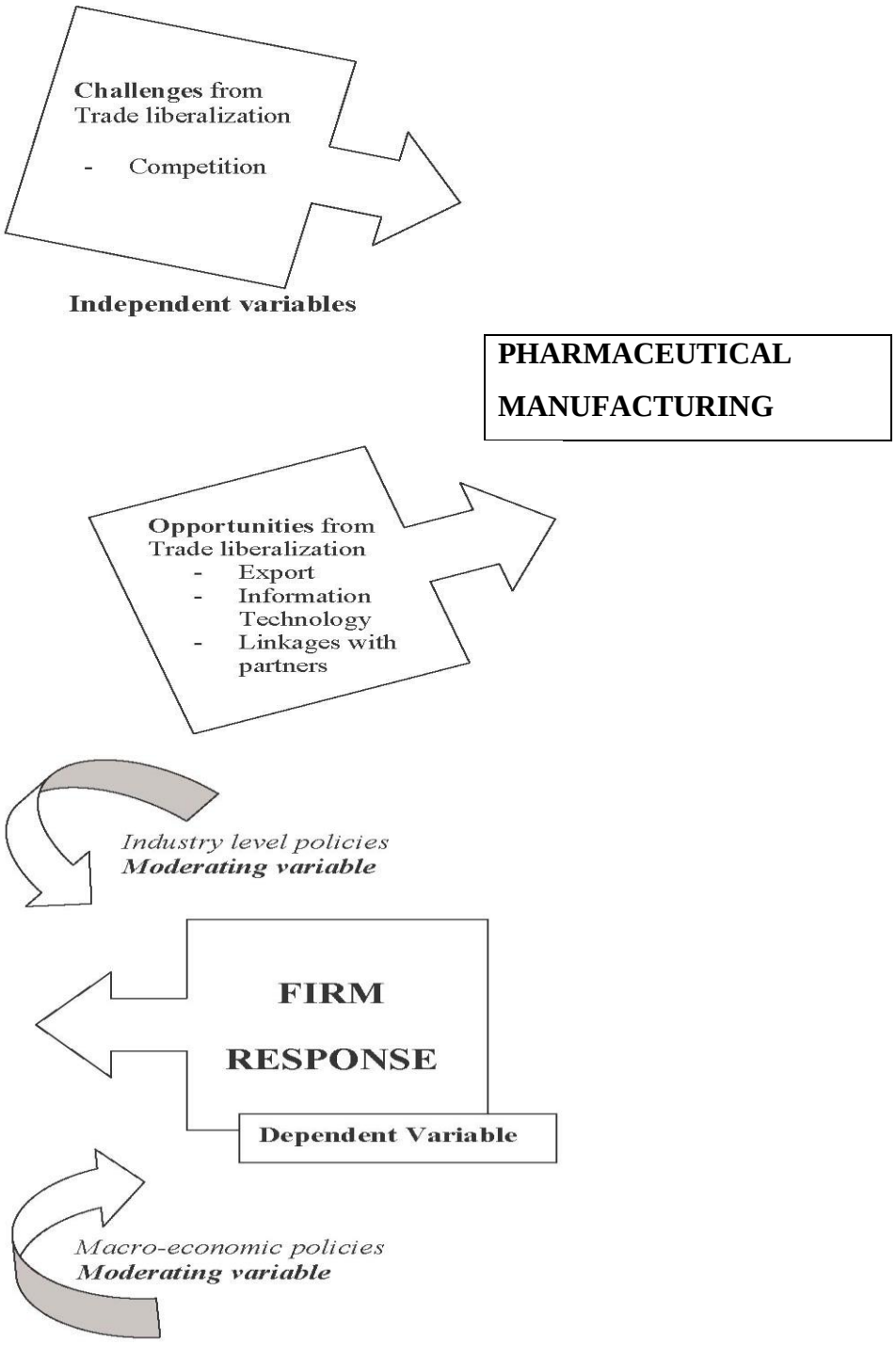
2.7 Conceptual Framework

According to Porter, M (1985) there are five forces (5F), one of the forces that can determine profitability of a company is competition. Since there is an inverse relationship between profit margins or returns and the intensity of competition*: as the intensity of competition goes up, margins and returns are driven down*. This implies that for a firm to remain in an industry its competitive strategies should be dynamic and, under some circumstances; it can occasion the decision to exit an industry.

Theoretically, trade liberalization has led to increase in the intensity of competition due to increase in number of players in the industry and increase in substitutes; these are accordingly the new challenges facing manufacturing firms after trade liberalization. On the other hand, the competitive pressures from the bargaining

powers of suppliers and buyers have become lower and these provide manufacturers with opportunities for low cost production and export market exploitation. In a situation where the industry structure has fundamentally changed as in the case of the manufacturing sector Tanzania after trade liberalization; what has been the response of manufacturing firms to increased competitive pressure? The response of firms in this study is investigated using the conceptual framework presented Below in Figure 2.1

Figure 2.1: Conceptual framework for Pharmaceutical Manufacturing Sector showing schematic diagram of variables used in the research.



2.7.1 Description of the Model

Opportunities resulting from trade liberalization are theoretically, static and dynamic gains expected from trade liberalization. This study shall focus exclusively on export opportunities, use of information technology and relationships with other firms. Export is selling of goods and services in markets other than the domestic market. Increased export of manufacturers was one of the key objectives of liberalizing trade. The study will examine whether pharmaceutical firms do export their manufactured goods and their export performance.

Information technology (IT) and Information is the essential link between all supply chain processes and activities, including suppliers, manufacturers, distributors and customers (Russel and Taylor, 2002). IT allows real-time, on-line communications throughout the supply chain and IT has become an important enabler in supply chain management. The use of electronic systems has become important for manufacturing firms worldwide. Changes in IT use have involved shift from stand-alone equipment and applications to computer based networking and new information services (Wangwe, 1995). This shift is a response to changes in market conditions. Thus the response to IT opportunities by manufacturing firms will be examined by using such variables as the kind of information available electronically in the firms; Use of electronic systems in manufacturing firms, Use of the web based technologies. Relationships and linkage with other companies will be a variable to be examined whether firm formed more relationships with other local, regional or global firms (suppliers, customers, other institutions) in their different business activities following trade liberalization. This study will examine whether firms cooperate with other firms or not with other partners whether local, regional or global in e.g. Marketing and sales, training, purchasing, continuous improvement programs, product and process development

Challenges resulting from trade liberalization these are the threats and forces in the external environment emerging from trade liberalization, which left to operate on their own, jeopardize the survival of a firm. Competition competition is defined as the collective strength of 5F competitive forces as described in Michael Porter‘s 5F

framework. Manufacturing firms will be examined to identify the level of competition after trade liberalization. The following criteria were used, whether firms are more open to competition, Perception of firms to the intensity of competition within their industry and performance trends of firms (sales, export, profit, average costs, and capacity utilization) for a period of a year. Firms Response indicates the competitive strategies and methods that the pharmaceutical manufacturing firms have adopted to respond to trade liberalization and to improve on their performance. The following items will be used to examine this response: Competitive strategy in the market, Strategies implemented to improve firm performance, Product and Process development.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically (Kothari, 2003 p.10). This chapter covers the methods that were used in data collection and analysis processes and the logic behind those methods. Various techniques were used confirming in answering the research questions and meeting the research objectives. The chapter also discusses research philosophies, qualitative and quantitative research approaches, research design, sampling techniques and data analysis techniques employed. The research methods include the collection of data both from primary and secondary sources. The secondary sources basically included the review of literature from textbooks, other reference materials/documents, and internet and lecture literatures. Interviews, questionnaires and content analysis were used in primary data collection. The data were collected and analyzed using, tables and percentages and based on the outcome of the analysis, conclusion is made and recommendations given.

3.2 Area of the Study

This study was carried out in Dar es Salaam city. It is located in the eastern part of Tanzania lying between latitudes 6o and 8o and longitudes 39oand 40o E. It has an area of about 1,393 square kilometres, covering a coastal zone of some 10 kilometres to 2 kilometres wide. The region is bounded by Coastal region in all sides, except in the eastern part where there is the Indian Ocean. The site of the city is contained within a lowland area (City Profile for Dar es Salaam, URT, 2004). The study was carried in Dar es Salaam city in Shelly pharmaceutical drug. The area found the Kinondoni were most of the information was available, Shelly pharmaceutical acquire some of the required data/ information, the areas purposely selected because of its potential and prominent role in the socioeconomic progress is good comparing to others areas; with other places in the region. Therefore, the chance of obtaining

large sample for analyses on pharmaceutical was easy and the researcher can obtained the required data smoothly.

3.3 Research Design

There are various explanations on the meaning of research design. Generally, a research design is a systematic planning, organizing and executing a research within specified time and resource limits. It tells type of data to be collected (primary or secondary), the source of and the procedures to be followed in data collection. Research design provides suitable framework that guides the collection and analysis of data. Also, Ghauri and Gronhang (2005) talk of a research design as a plan outlining how information is to be gathered for an assessment or evaluation that includes identifying the data, how to administer the instruments and how to organize the information and lastly how to analyze data. This study was employed the descriptive design to assess how Tanzania Pharmaceutical Manufacturing firms responds to Trade Liberalization. It also involved both quantitative and qualitative data collection. In this chapter, the researcher had a background against which findings of the study was assessed regarding its validity and reliability. Therefore this section highlighted the research design, area and population of study, sample selection and size, the data collection methods and data analysis.

3.4 Research Approach

For the better result, the study combined qualitative and quantitative approaches. Participatory approach was employed as qualitative design. Semi structured interviews with key informants, in-depth interviews and observation methods were triangulate in order to allow new insight. The method helps to obtain information that would not emerge from survey approach (Mbwambo, 2002). Research design was employed for quantitative approach. It was simply express as gathering information about a large number of people by collecting information from a few of them (Black and Champion, 1986). For these purpose questionnaires was supplied. Due to scarcity of resources this design saves cost on time and money.

3.5 Study Population

The population of the study has included all employees and customers of Tanzania Pharmaceutical Manufacturing firms located in Dar es Salaam city and they was tested some success in the business undertakings. The population will purposely select to meet the objectives of the research.

3.6 Sample Size and Sampling Procedure

Sampling is the procedure of selecting a proper subset of the elements from the population so that the subset can be used to make the inference to the population as a whole. This study has obtained data from 100 respondents from among respondents located in Dar es Salaam city. The study has used non probability sampling called purposive sampling in selecting respondents. Purposive Sampling involves selecting respondents based on key positions they hold in their organization or set up.

3.7 Data Collection Methods

The study was utilized both primary and secondary data in collecting data. Therefore, data was collected through the use of structured questionnaire, personal interviews and documentary review.

3.7.1 Primary Data

Primary data was collected through questionnaires and by actual interviews conducted by the researcher.

3.7.1.1 Questionnaire

A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms (Kothari, 2004). The study was used the structured questionnaires in this study. Structured questionnaires are definite, concrete and pre-determined questions. Questions are presented with exactly the same wording and in the same order to all respondents. The form of questions may be either closed or open and may also have fixed alternative questions in which the responses of informants are limited to the stated alternatives. This instrument was used in this study due the following merits; there is low cost even when the universe is large and

is widely spread geographically, it is free from the bias of the interviewer; answers are in respondents' own words, respondents have adequate time to give well thought out answers, respondents, who are not easily approachable, can also be reached conveniently and large samples can be made use of, and thus the results can be made more dependable and reliable.

3.7.1.2 Interviews

According to Kothari (2004), interview is a method of collecting data which involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses. This method was used through personal interviews and, if possible, through telephone interviews. The instrument was used in order to supplement the questionnaires for more information. The researcher was selected the respondents who had access to the information required and understood the questions to be asked.

3.7.1.3 Observation

This was including direct access to documents needs. This method was used in observing the well being of finding out how Tanzania Pharmaceutical Manufacturing firms responds to Trade Liberalization.

3.7.2 Secondary Data

These are data were obtained from literature sources or data collected by other people for some other purpose. These data provide second hand information and include both raw data and published ones. Some of data collected and stored by organizations include details on the payroll, income statements, and copies of letters and minutes of meetings, newspapers, journals and textbooks (Saunders et al, 2000). According to Kothari (2004), Secondary data means data that are already been collected and analyzed by someone else. Secondary data may either be published data or unpublished data. Published documents are books, magazines, newspapers, reports, public records and statistic, historical documents, technical and trade journals and various publications of foreign governments or international bodies and their subsidiary organizations. Unpublished documents are from diaries, letters, unpublished biographies and autobiographies, scholars and research workers, trade

associations, labour bureaus and other public/ private individuals and organizations.

Advantages of secondary data are that it is cheap and inexpensive. It is easily accessible. It is already available. It saves time and efforts. It is unobtrusive. It avoids data collection problems and it provides a basis for comparison.

3.7.2.1 Documentary Review

Documentary review is another method that was employed in obtaining data from different publications. Documents such as news reports, articles in newspapers, blogs, and reports were cited. They are helpful in establishing the model and making a trend analysis of different issues arising in the study. The researcher used to check list and compilation forms in the process of identifying and grouping data relevant for the study. This was helpful in establishing facts about e-trade transparency implementation in comparison between Tanzania and the world as whole.

3.8 Reliability and Validity of Data

Credibility of research findings relies on the attention paid to two particular emphases on research design: reliability and validity (Saunders et al, 2000 p.100). In this study, reliability and validity aspects was handled with great concern to avoid getting wrong answers to research question and objectives.

3.8.1: Reliability

This refers to how consistent or stable the ratings generated by the scale are. It entails that the measure or data collection methods shall be influenced by changes in context. The validity of information collected is seen in the extent to which the methods will be used to pick up what researcher expected them to (Edwards and Talbot, 1994 p.70). Reliability of the measures was to ensure as all questionnaires and interview guide was uniform, both respondents. The collected data was process in a uniform way to ensure that, the conclusion reached is similar to any other study that was conducted in similar approach. No research assistant was be employ in this study. Different method of data collection, questionnaire, interview and documentary

review resulted to high level of triangulation which in turn ensured reliability of the data collected.

3.8.2: Validity

It is important to test for validity because, despite the fact that internal consistence of the scale is necessary condition for validity, it is not sufficient evidence of the validity (Churchill, 1999). Validity is concerned with whether the findings are really about what they appear to be about (Sounders et al, 2000 p. 101). Validity of the measures was ensured by analyzing data and making tests in the before, within and after field work. For example, the statistical data and reviews collected from one branch using questionnaires tallied with those obtained from another branch. Thorough data cleaning was done after the field work.

3.9 Data Presentation and Analysis

Data analysis involves scrutinizing the required information and making inferences (Kombo and Tromp, 2006 p.117). Qualitative data will be analyzed by summarizing the findings and explanations and there of using categorized and direct quotations to present the findings and generate attributions. Quantitative data will be coded and analyzed in the form of tables, percentages and simple statistical measures calculated using spreadsheet formulas. The process of interpretation will be based on inferential statistical methods obtained by the use of SPSS (Scientific Package for Social Science) Version 20. Analysis of variance and independent samples t-test techniques will be used with regard to variables influencing the respondents. Basically, data analysis and interpretations enable the researcher to address the research problem, derive conclusions and eventually recommended possible market implications and actions in a constructive manner. Data interpretation will be based on

CHAPTER FOUR

PRESENTATION OF FINDINGS, ANALYSIS AND DISCUSSION

4.1 Introduction

The findings on the Tanzania Pharmaceutical Manufacturing firm's responds to Trade Liberalization have been presented and analysed in tables, charts and explanation. The results included quantitative information that is mainly from 40 respondents, also the qualitative information were taken from the key informants and unstructured interviews. Internal records were mainly from Annual Reports and Corporate plans while External Sources of data were captured from books pharmaceutical Survey of Tanzania, Journals, Magazine and Brochures.

4.2 Presentation

The researcher after gathering opinions from different informants who are Tanzania Pharmaceutical Manufacturing firms, data was sorted for a thorough analysis. Information collected from different respondents of Tanzania Pharmaceutical firms was tabulated in their raw form, cleaned and coded. These data are presented under various headings which constitute the different areas of the research. An appropriate interpretation had been then carried out coupled with supporting arguments; other views from other researchers were used to support or discuss the findings.

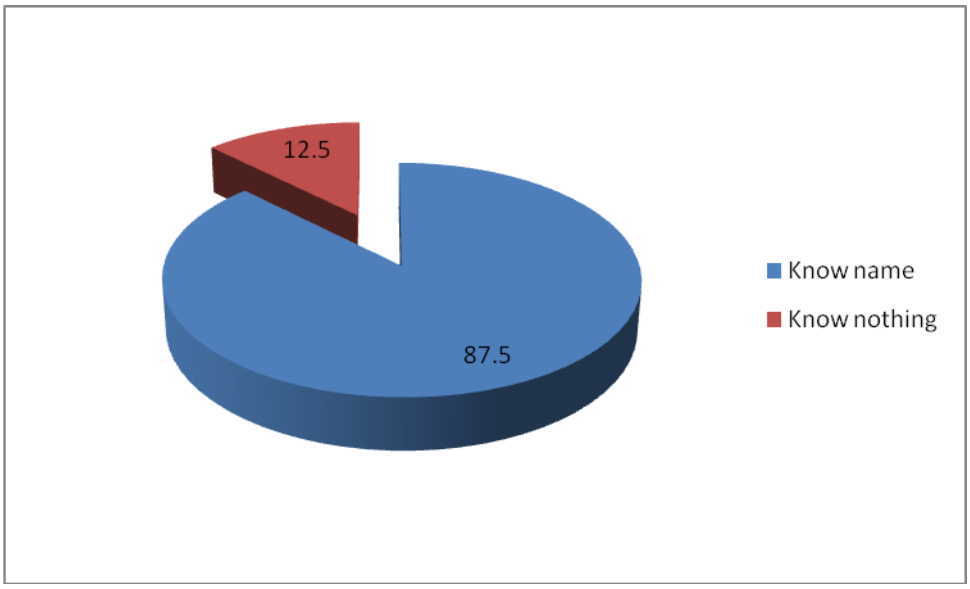
It was done in accordance with the three objectives and research questions that guided the study which was to evaluate opportunities present in the Pharmaceutical Manufacturing sector in Tanzania. To find out the level of competitiveness and survival of Pharmaceutical Manufacturing Firms in liberalized business environment and to determine challenges facing Pharmaceutical Manufacturing industry in Tanzania. An investigation was done and findings are shown below with their respective questions

Table 4. 1: Responses to knowledge of Tanzania Pharmaceutical Companies

Characteristic	Frequency	Percentage
Know the companies	35	87.5
Don't know the companies	5	12.5
Total	40	100

Source compiled from the research 2014

Figure 4. 1: knowledge of Tanzania Pharmaceutical Companies



Source compiled from the research 2014

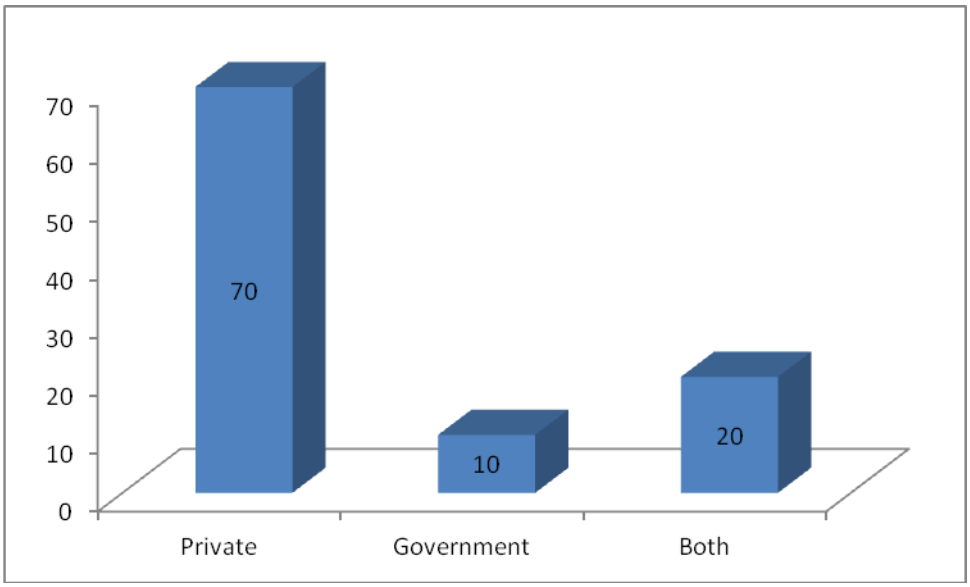
During the survey the respondents were asked to what extent they know the name of pharmaceutical manufacturing companies in Tanzania. 87.5% of the respondents expressed that they know all pharmaceutical companies in Tanzania and managed to mention their names accurate accurately and only 5(12.5%) failed to express the names of pharmaceutical companies in Tanzania, that indicated that they know nothing about other pharmaceutical manufacturing companies operating in Tanzania. Therefore in this study majority of respondents were aware of the name of the manufacturing firm by name.

Table 4.2: Type of ownership of pharmaceutical companies:

Characteristic	Frequency	Percentage
Private	**28**	**70**
Government	**4**	**10**
Both	**8**	**20**

Source compiled from the research 2014

Figure 4.2: Type of ownership of pharmaceutical company:



Source compiled from the research 2014

During the survey the respondents were asked types of ownership of this manufacturing firm 28 (70%) of respondents expressed as private firm while 4(10%) of all respondents said government and 8(20%) of all respondents said both private and government ownership, The study findings indicated that the majority of pharmaceutical industries in Tanzania are private industries and three industries are in joint venture between the government and local entrepreneurs i.e. KEKO, TPI and TANZANSINO. Two of the four private industries are joint venture with foreign companies' i.e. Shelly's and ZENUFA**.** The study also revealed that most pharmaceutical industries concentrated on producing non sterile generic pharmaceutical products i.e. tablets, capsules, creams and ointments and liquids. TPI was the only industry that produces antiretroviral (ARV's). None of the local

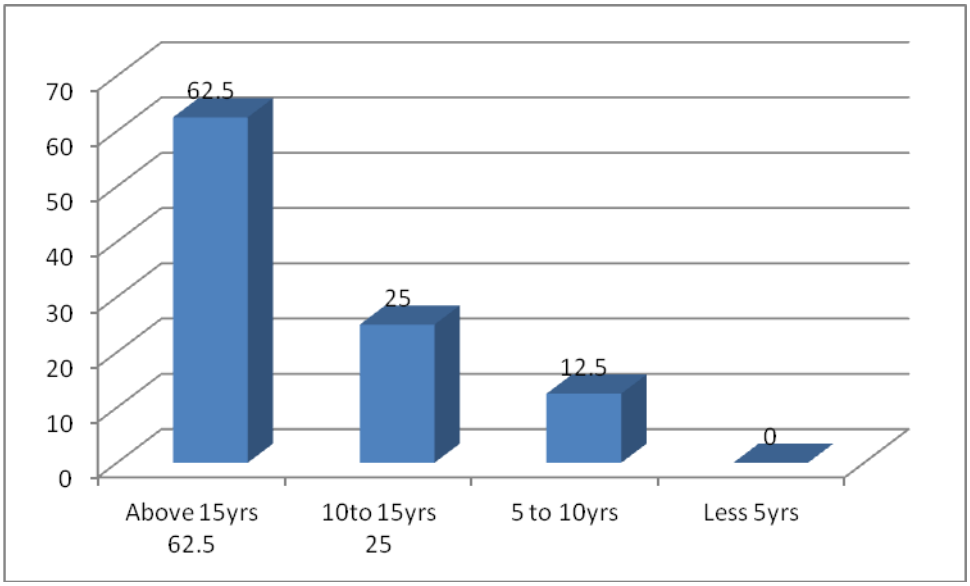
industries produce sophisticated pharmaceutical products like Intravenous infusions (IV), injectable and other sterile products such as eye and ear drops, despite endemic diseases such as malaria; cholera can be treated using IV infusions and strong antimicrobials, therefore in this study it implies that Tanzania pharmaceutical manufacturing firm are private institution firm which manufacturing drugs in the country and export abroad. Hence, type of ownership shapes business commitment.

Table 4.3: Duration of company operation

Characteristics	Frequency	Percentage
Above 15 yrs	25	62.5
10 to 15 yrs	10	25
5 to 10 yrs	5	12.5

Source compiled from the research 2014

Figure 4. 3: Duration of company operation.



Source compiled from the research 2014

The question was asked on when the company started operation; 25(62.5%) of all respondents expressed more than 15years, while 10(25%) of all respondents said 10 to 15 years and only 5(12.5%) of all respondents said 5to 10 years company started

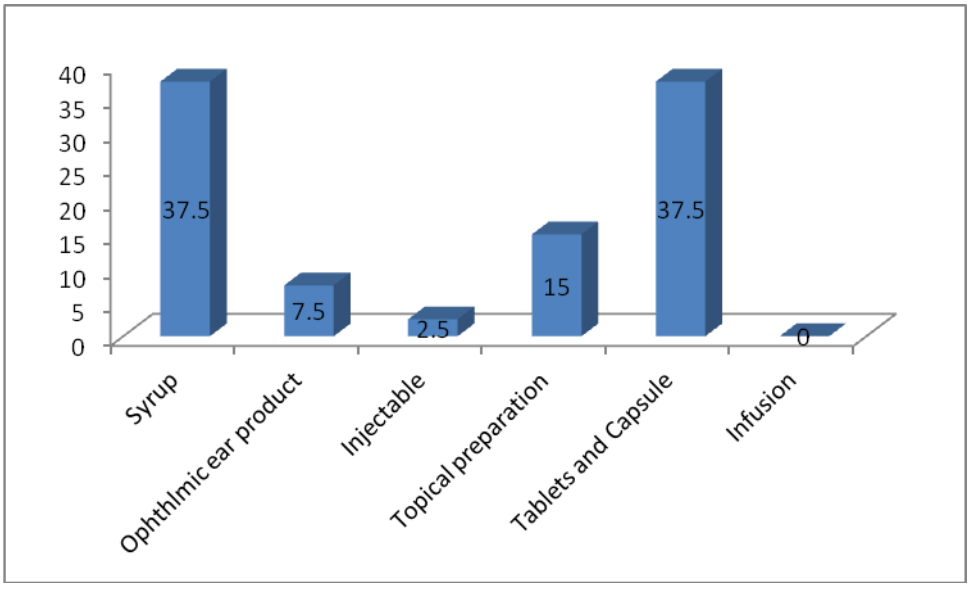
to operate, therefore in this study it entail that Tanzania pharmaceutical manufacturing are in operating more than 15 years old.

Table 4.4: Types and forms of products produced by companies

Characteristics	Frequency	Percentage
Syrup	15	37.5
Ophthalmic ear product	3	7.5
Injectable	1	2.5
Topical preparation	6	15
Tablets and Capsules	15	37.5
Infusion	0	00

Source compiled from the research 2014

Figure 4.4: Types and forms of products produced by companies



Source compiled from the research 2014

During the survey the respondents were asked types of products do the company produce, the research findings show that 15 (37.5%) of all respondents said syrups, while 3(7.5%) of all respondents said ophthalmic and ear product and 1(2.5%) of all respondent said injectable, topical preparation were 6(15%) of all respondents while tablets and capsules were 15(37.5%) no any respondents said infusion as types of

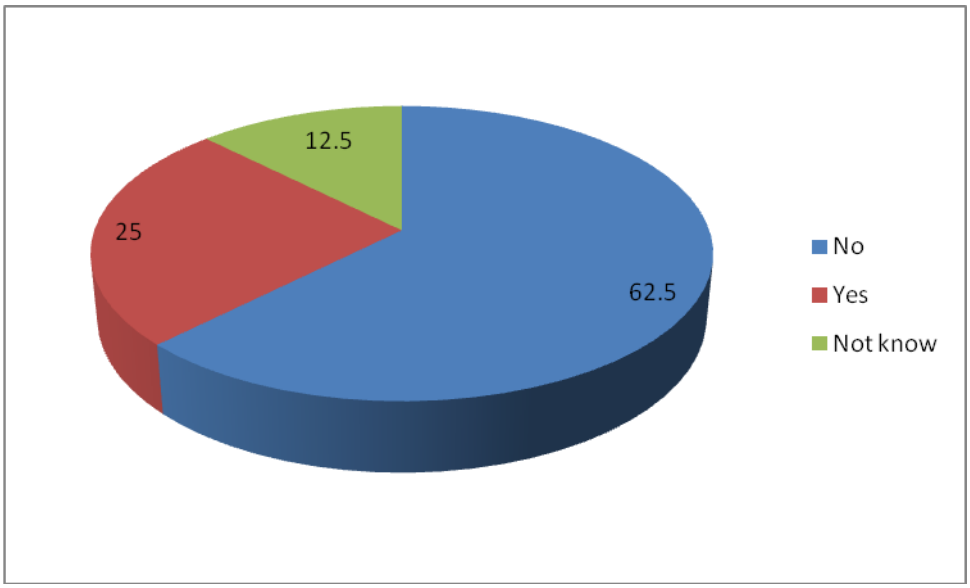
products produced. Therefore in this study it entail that the company produce more syrup products and tablets together with capsule compare to other products which is produced in less amounts and need to increase efforts to produce more drugs for community use. This is supported by MSH 2001, Most of the pharmaceutical production done in the Tanzania local industries concentrates on less sophisticated medicines such as simple antibiotics, cough and cold preparations, analgesics and antipyretics, sedatives, nutraceuticals, antihelmintics and antimalarials (MSH, 2001). More technologically sophisticated pharmaceutical products like Intravenous (IV) fluids, injectables, and more advanced antibiotics like cephalosporin are imported, as our local industries, still lack the ability to produce them (Mhamba et al, 2010).

Table 4.5: Responses on change of type of products produced in the past 3 years

Characteristics	Frequency	Percentage
No	25	62.5
Yes	10	25
Not Know	5	12.5

Source compiled from the research 2014

Figure 4.5: Responses on change of type of products produced in the past 3 years



Source compiled from the research 2014

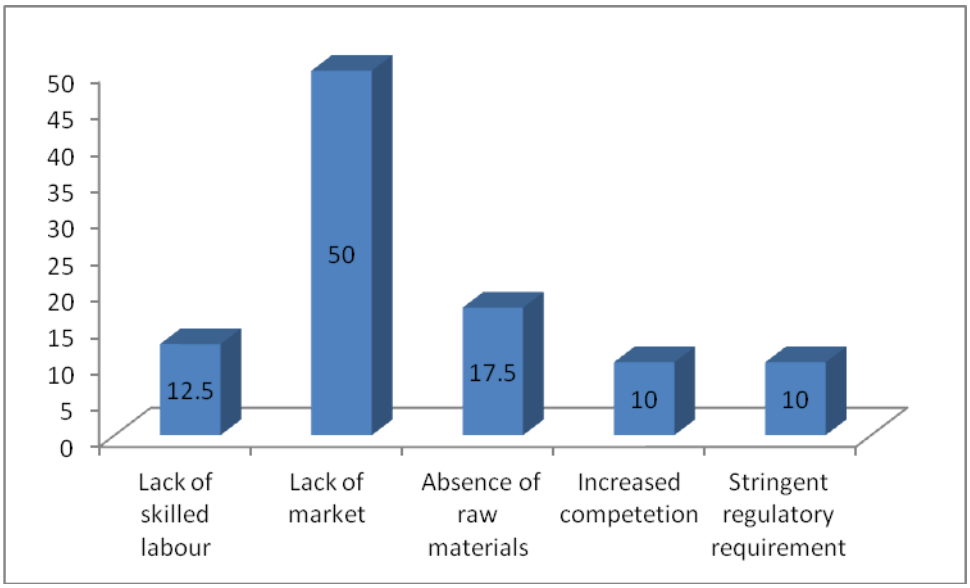
Respondents were asked to present their views if the company change type of products produced in the past 3 years, 25(62.5%) of all respondents said no any product changed by company in past 3years, while 10(25%) of all respondents said yes some product changed by the company in past three years and only 5(12.5%) of all respondents knew nothing if any products changed in period of three years, therefore in this study it implies that no products changed by the company during three years of manufacturing.

Table 4.6: Reason(s) necessitated the change of product produced at the factory

Characteristic	Frequency	Percentage
Lack of skilled labour	5	12.5
Lack of market	20	50
Absence of raw materials	7	17.5
Increased competition	4	10
Stringent regulatory requirement	4	10
Total	40	100

Source compiled from the research 2014

Figure 4.6: Reason(s) necessitated the change of product produced at the factory



Source compiled from the research 2014

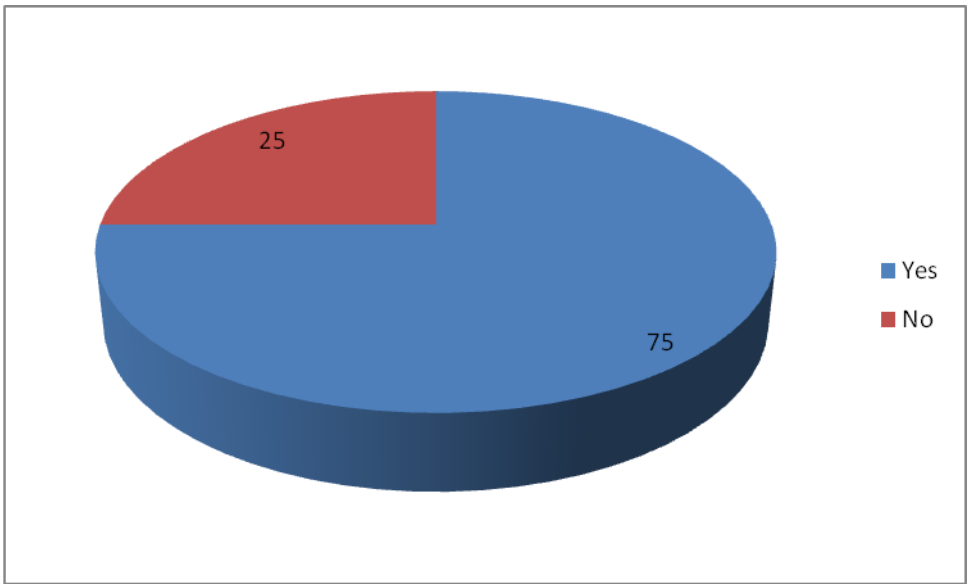
During the survey the respondents were asked what reason(s) necessitated the change of product produced at your factory, 5(12.5%) of all respondents said due to lack of skilled labour, 20(50%) of all respondents said due to lack of market necessitate the change of product produced in the factory while 7(17.5%) of all respondents said absence of raw materials and only 4(10%) of respondents said increase of competition and also 4(10%) of all remaining respondent said stringent regulatory requirements. Furthermore, absence of industrial policy to support domestic firms in dealing with the new business conditions at the time of import liberalization, led to decline in domestic manufacturing firms following flooding of local markets with cheap imports that displaced local production and goods. Semboja (1998) further suggested that the absence of an industrial policy with a clear fiscal policy thrust and a framework on protection of domestic industry contributed to the erosion of level playing field of manufacturers in Tanzania, therefore in this study it entail that necessitated the change of product produced in factory is due to lack of market.

Table 4.7: Responses to opportunities for Pharmaceutical manufacturing sector in Tanzania

Characteristics	Frequency	Percentage
Yes	**30**	**75**
No	**10**	**25**

Source compiled from the research 2014

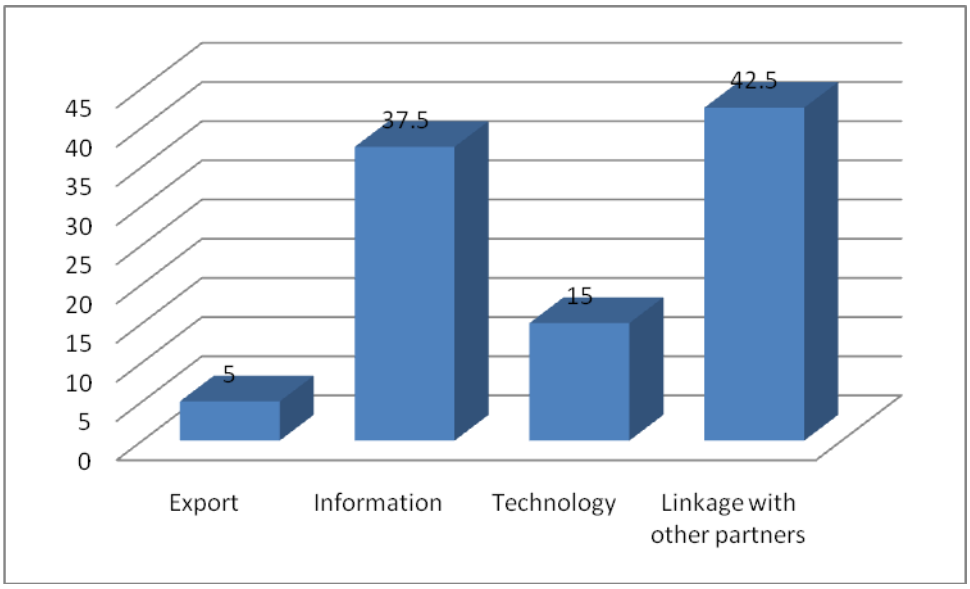
Figure 4.7: Knowledge opportunities for Pharmaceutical manufacturing sector in Tanzania.



Source compiled from the research 2014

Respondents were asked to present their views on opportunities for Pharmaceutical manufacturing sector in Tanzania gained from Trade Liberalization, most of respondents 30(75%) of all respondents agreed there opportunities for Pharmaceutical manufacturing sector in Tanzania gained from Trade Liberalization while only 10(25%) of remaining respondents didn't agree if there opportunities for Pharmaceutical manufacturing sector in Tanzania gained from Trade Liberalization. Therefore in this study it show that there many opportunities for pharmaceutical manufacturing sector in Tanzania to gain trade liberalization and is supported by Sharma who agreed that trade liberalization leads to greater efficiency. Proponents of trade liberalization agree that liberal trade policy gives the right price signals, increases competitive pressures on the manufacturing industry to improve their efficiency and competitiveness. As a result, these industries will be able to compete on the world market, increase exports and thus increase welfare of their societies (Sharma, 1999).

Figure 4.8. Opportunities for Pharmaceutical manufacturing sector in Tanzania in the trade liberalisation era.



Source compiled from the research 2014

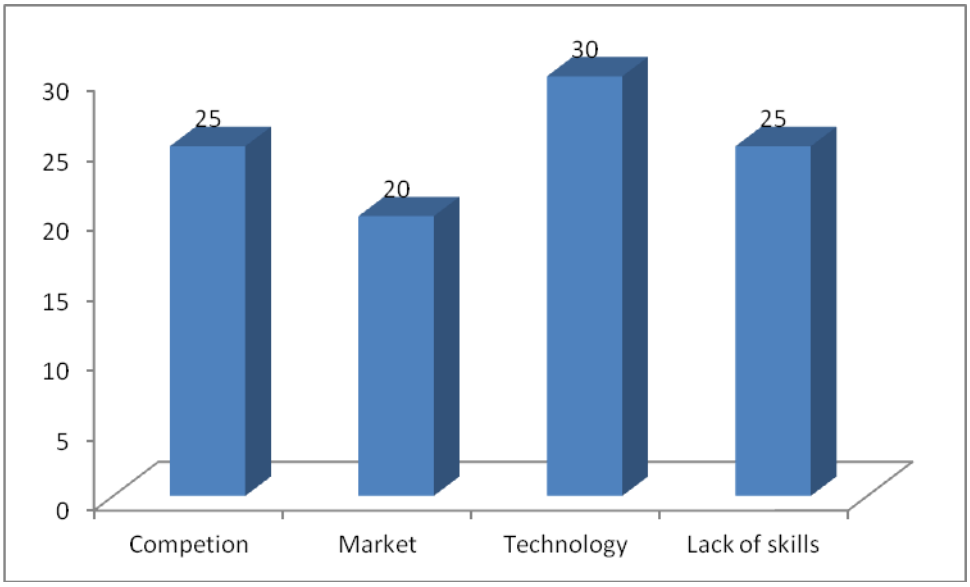
In the survey the respondents were asked if there are opportunities for pharmaceutical manufacturing sector in Tanzania in this era of trade liberalisation. 5% of respondents indicated that export is the opportunities. 37.5% of respondents indicated that sharing of information among the pharmaceutical companies in and out of the country is the opportunities that local pharmaceutical companies enjoy, while 15% of respondents indicated that the technological share and imitation among competitor companies was the opportunity that was exploited of which eventually boosted quality production of medicines. However, high percentage such that 42.5% of respondents indicated that linkage with other partners as far as training, laboratory tests and Research and Development are concerned were the opportunity for pharmaceutical manufacturing sector in Tanzania and technology was determined as a threat, which lead to weakness in competition. Therefore in this study it is revealed that linkage with other partner is the major opportunity in pharmaceutical manufacturing sector in Tanzania Technology in developed countries is the threat and less capability to compete is the weakness in local pharmaceutical manufacturing sector.

Table 4.8: Challenges facing the pharmaceutical manufacturing sector from Trade Liberalization in Tanzania.

Characteristics	Frequency	Percentage
Competition	10	25
Market	8	20
Technology	12	30
Lack of skilled	10	25

Source compiled from the research 2014

Figure 4.9: Challenges facing the pharmaceutical manufacturing sector from Trade Liberalization in Tanzania



Source compiled from the research 2014

During the survey the respondents were asked what are the challenges facing the pharmaceutical manufacturing sector from Trade Liberalization in Tanzania; 10(25%) of all respondents said that competition is the main challenge facing pharmaceutical manufacturing sector from trade liberation in Tanzania while 8(20%) of all respondents said marketing are challenges, 12(30%) of all respondents said technology are challenges facing pharmaceutical manufacturing firm from trade Liberalization in tanzania, therefore in this study it show that lack of technology remain challenges in trade liberalization in tanzania industry as well as Africa also is

supported by two authors Lall and Biggs. The study by Lall *et al.* (1995) noted that although external shocks and inappropriate policies have influenced the performance of African industry, the widespread absence of competitiveness and technological dynamism is also explained by other constraints related to the lack of capabilities needed to set up modern industry and operate it efficiently. Overall, little attention was given to the need for supportive policies, which could complement market forces in ensuring technological dynamism and manufacturing competitiveness and Biggs *et al*. (1995) studied the technological capabilities and learning in African enterprises and they argued that improving price structure and increasing competition through trade liberalization, and privatizing public enterprises are unlikely to be sufficient for successful industrial development in Africa. They concluded that for African firms to be competitive in the world market, specific performance and time based policies for protection of infant industries should be in place to enable their technological competency reach international levels.

Table 4.9: Responses to company openness to competitors

Characteristics	Frequency	Percentage
Yes	36	90
No	4	10

Source compiled from the research 2014

During the survey the respondents were asked if the company open to competitors; most of respondents agreed that the company compete with other industries on costumers, 36(90%) of all respondents said yes while only 4(10%) of remaining respondents didn't agree if company compete. Manufacturing firms must examine to identify the level of competition after trade liberalization. Perception of firms to the intensity of competition within their industry and performance trends of firms (sales, export, profit, average costs, and capacity utilization) for a period of a year. Firms Response indicates the competitive strategies and methods that the pharmaceutical manufacturing firms have adopted to respond to trade liberalization and to improve on their performance. The Competitive strategy in the market, Strategies implemented to improve firm performance, Product and Process development.

Table 4. 10: Business condition for past three years

Characteristics	Frequency	Percentage
Increasing	32	80
Decreasing	6	15
Same	2	5

Source compiled from the research 2014

The above table show that 32(80%) out of 40(100%) of all respondent when asked how do you rate business condition said is growing well year to year compare with those who said decreasing were only 6(15%) of all respondents. Therefore this study implies that the rate business condition is good /increasing day to day. However, according to the MOHSW, (2010) report, local manufacturers contribute to the combined market share not more than 30%, of all essential the pharmaceuticals required in Tanzania. For that case 70% of the national drug requirement is imported from abroad.

Table 4. 11: Intensity of competition within the Pharmaceutical industry in the Trade Liberalized era.

Characteristics	Frequency	Percentage
Low	2	5
Moderate Low	5	12.5
Average	3	7.5
Moderate High	10	25
High	20	50

Source compiled from the research 2014

According to result above show that 20(50%) of all respondents were asked that the intensity of competition within the Pharmaceutical industry in the Trade Liberalized era said is high while 10(25%) said moderate high, 5(12.5%) of respondents said moderate low and 3(7.5%) respondent said average, therefore in this study it entails that the intensity of competition within Pharmaceutical industry in the trade Liberalized is high also according to Mhamba and Mbirigenda, (2010), Tanzania

imports about 70% of the national drug requirement and local production accounts for about 30%. The pharmaceutical sector in Tanzania consists of eight manufacturing industries all producing generic pharmaceutical products using *imported* active pharmaceutical ingredients (APIs). Most of the APIs are imported from India and China. Pharmaceutical products from India dominate the share of drugs in the local market registered by the Tanzania Food and Drugs Authority (TFDA).

Table 4.12. Responses to the impact of tariff on company competitive imports

Characteristics	Frequency	Percentage
Low	5	12.5
Moderate low	4	10
Average	11	23.5
Moderate high	8	20
High	12	30

Source compiled from the research 2014

During the survey the respondents were asked on perception on the impact of tariff on the competitive import most of respondent said high equal to 12(30%) of all respondents participated, while 11(23%) of all respondent said average, 8(20%) of all respondents said moderate high and only few of them said low and moderate low that is 12.5% and 10% of all respondents on perception on the impact of tariff on the competitive import, Tanzania imports about 70% of the national drug requirement and local production accounts for about 30%. The pharmaceutical sector in Tanzania consists of eight manufacturing industries all producing generic pharmaceutical products using *imported* active pharmaceutical ingredients (APIs). Most of the APIs are imported from India and China. Pharmaceutical products from India dominate the share of drugs in the local market registered by the Tanzania Food and Drugs Authority (TFDA).

Table 4.13: Company competitive response to match with trade liberalization

Characteristics	Frequency	Percentages
Develop new products	5	12.5
Raising productivity	15	37.5
Improve market & sells	10	25
Improve manufacture	5	12.5
Move to export market	5	12.5

Source compiled from the research 2014

According to the findings above, it show that 15(37.5%) of all respondents expressed that important competitive response of firm to respond on trade liberalization were through raising productivity while 10(25%) of all respondents said that the company responded through the improve market and sells strategy and others developed new product, improve manufacturing and move to export market into the following percentages respectively 5(12.5%), 5(12.5%), 5(12.5%).Therefore in this study it entails that in order the firm to respond on trade liberalization must raise productivity and improve market and sells this it shows that, Tanzania imports about 70% of the national drug requirement and local production accounts for about 30%. The pharmaceutical sector in Tanzania consists of eight manufacturing industries all producing generic pharmaceutical products using *imported* active pharmaceutical ingredients (APIs). Most of the APIs are imported from India and China.

Table 4.14: Challenges facing pharmaceutical manufacturing sector in Tanzania.

Characteristics	Frequency	Percentage
Poor government support	9	22.5
Shortage of labour skills	8	20
Poor infrastructure	3	7.5
Higher operating cost	10	25
Shortage of capital	10	25

Source compiled from the research 2014

During the survey the respondents were asked to mention the challenge**s** facing the pharmaceutical manufacturing sector in Tanzania 10(25%) of all respondents mentioned higher operating cost and shortage of capital which is equal to 25% of all respondents, while poor government support mentioned by 22.5% of all respondents, 20% of all respondents mentioned shortage of labour skills and only 7.5% of the respondent mentioned poor infrastructure as challenges facing manufacturing in Tanzania, therefore in this study it implies that major challenges in manufacturing pharmaceutical in Tanzania were higher operating cost and shortage of capital , The study by Lall *et al.* (1995) noted that although external shocks and inappropriate policies have influenced the performance of African industry, the widespread absence of competitiveness and technological dynamism is also explained by other constraints related to the lack of capabilities needed to set up modern industry and operate it efficiently. Overall, little attention was given to the need for supportive policies, which could complement market forces in ensuring technological dynamism and manufacturing competitiveness.

The qualitative information collected from the local pharmaceutical manufacturers on the challenges perceived that hinders production of adequate essential medicines**,** were identified into which are presented below:-

4.2.1 High Operating Costs due to Inadequate and Unreliable Utilities

Manufacturers mentioned high operating costs due to unreliable public utilities a major challenge. High costs of energy and water had made it difficult for local pharmaceuticals industries to maintain their full manufacturing potentials. Manufacturers claimed to be forced to take extra tactical measures such as producing one pharmaceutical product at a time when power is available from the national grid, rather than producing multiple products if there was no power rationing. They reported lack of stable power creates deterioration of reagents and wastage of chemicals that were used in the laboratory for quality control of the pharmaceutical products. The respondents also complained on expenses which they were forced to incur for buying and running generators. The following contention summarizes the information from the respondent.

"When there is no electricity we are forced to switch on our standby generators which will also run our air conditions which are very expensive because using a generator for one day here in productions and air conditions it costs more than 6,000,000/Tsh per day."(Interviewee from industry)

Manufacturers also reported that the lack of reliable water supply was among the challenges that face the local pharmaceutical industries in Tanzania. Most of the local pharmaceuticals industries were located in Dar es Salaam where water rationing is common. Shortage of water causes industries unnecessary expenses to the pharmaceutical manufacturers as they are forced to drill wells buy and maintain water pumping machines and water purification systems to ensure the supply of clean water for production of medicines. The claims of the local manufacturers were supported by the respondents from the MOSHW and TFDA, who agreed that lack of reliable public utilities were a challenge to both manufacturers and the Government. They stated that the government was taking necessary measures to rescue the situation by finding different sources of energy and water.

4.2.2 Poor Infrastructure.

Manufacturers stated that a poor roads and communications service was one of the challenges that faced local pharmaceutical industries in Tanzania. Most Tanzanian roads are poorly maintained leading to high operating costs especially in the distribution of medicine during rainy seasons. The rainy season is associated with interference of the supply chain of manufactured medicines as well as the irregular supply of raw materials needed to manufacture medications leading to insufficient production of essential medicines. Respondent from the MOHSW agreed with the manufacturers that poor infrastructure was a challenge to the manufacturers. It was also reported that an additional challenge was that, the Ministry of Land and Natural Resources has not dedicated specified areas for the establishment of pharmaceutical industries. These areas should be assured with good infrastructure and public service utilities; this will ensure the development and sustainability of local industries.

4.2.3 Shortage of Human Resources;

Manufacturers claimed that lack of experts and skilled human resources was another challenge in local pharmaceutical industries in Tanzania. They agreed that technical expertise is absolutely critical in terms of sufficient numbers of human and appropriate skills in different fields. The manufacturers identified shortage of skilled scientists such as chemists, process engineers, biomedical engineers, and bioinformatics specialists, -computer scientists, industrial pharmacists, biochemists and laboratory technicians. Two manufacturers reported that most of the experts and skilled industrial pharmacists for productions in pharmaceuticals industries in Tanzania are expatriates who demand high salaries. Manufacture also stated that they had to start by providing training for the local employees at different institutions within and outside the country for them to acquire the required industrial skills for the production. This was an additional cost for the local manufacturer. All manufacturers claimed that the pharmacy Institutions in Tanzania was producing too few pharmacists with little industrial skills and experience in pharmaceutical production. The respondent from the Ministry of Health and Social Welfare stated that there already Government efforts in place to reduce the shortage of pharmaceuticals human resources through increasing the enrollment at MUHAS School of Pharmacy and the establishing schools of Pharmacy at Bugando University and St John University – Dodoma and pharmacy CPE and diploma courses at St.Luke Foundation in Moshi.

4.2.4 Inadequate Government Support

Manufacturers claimed that inadequate government support was a challenge in the development and growing local pharmaceutical industries in Tanzania. The respondents complained to run their industries without government support to facilitate reduction of some of the taxes and duties of imported packaging and raw materials for medicines productions. The manufacturers also claimed that the government had not taken any initiative to encourage investment in the pharmaceutical industry.

4.2.5 Inadequate Financing

Manufacturers revealed that, most of the pharmaceutical industries were operating on banks loans which were not sufficient to run the industry as banks charged high interest rates. Thus most industries were operating using insufficient capital which minimizes production, development of the industry and reduces their competitiveness with other industries. Two manufacturers reported to be operating using their own capital but it was revealed in the study that they were in fact collaborating with foreign companies to make things move. For example Shelly's Pharmaceutical was owned by the local the Sumaria group which owned 40% of shares, while 60% was owned by ASPEN of South Africa.

4.2.6 Low Prices of Imported Products

The majority of Pharmaceutical Manufacturers reported that importations of essentials medicines from other countries such as China India and European countries was the major challenge that hinders development of local pharmaceuticals industries. They reported that some of the imported medicines are also produced by our local pharmaceuticals industries. These imported medicines which are produced by giant companies are treated similar to local products and therefore are cheaper in prices compared to those produced locally which are often more expensive due to high production costs. As a result the locally produced medicines remained to be expensive in local market and this created unfair competition.

4.2.7 Consumer Perception toward Imported Products

All manufacturers interviewed stated that a consumer perception about locally produced generic products were another challenge. They said many Tanzanians believe that the most quality medicines are imported. Therefore products which were produced by our local pharmaceuticals industries faced stiff competitions in terms of market share from those imported medicines. The following contention summarizes the information from one of our respondent.

"Competition is good, but if you are not competing apples against apples you find a big problem because others will choose another choice."(Interviewee from industry)

4.2.8 Lack of Accessory Industries.

Manufacturers revealed that the manufacturing and distribution of pharmaceutical products were more complex and regulated than the activities in most other industries. They said the situation makes difficult for them to develop manufacturing base for pharmaceuticals (primary manufacturing) which concerns with production of active ingredients. Manufacturers stated that primary manufacturing was complicated and expensive process and therefore they rely on importation of raw materials from other countries such as India, China and Europe where they are very expensive. The finding also revealed that there were few accessory chemical industries in Tanzania that could support the local manufacturers to produce quality raw materials for pharmaceuticals production. As a result all current local manufacturers in Tanzania perform secondary manufacturing processes which were less complicated. As can been seen from the product array produced by our local manufacturers.

4.2.9 Port Delays:

Manufacturers complained on the delays of raw materials from Dar es Salaam port in terms of clearing procedures which hinder the production of essentials medicines. Most of the respondents claimed that it takes one to three months to collect raw materials which were needed in the production of medicines. The respondents reported that these delays were partially responsible for them failing to supply their tenders to Medical Store Departments (MSD) as well as other in the markets in required time. They stated that the limited time given by MSD to local producers would not accommodate any delays from the port on importations of raw materials. The manufacturers also revealed that the pharmaceuticals industries were paying tax, clearing fees, storage charges and container demurrage charges. The following contention summarizes the information from one of our respondent.

"importations of raw materials there is serious delays in our ports authorities for collecting our goods and it costs us a lot of money, one and two numerous delays which again costs a lot of money because if materials are delayed you might find that on site you have five of six materials to make a product the six material is

stacking in the port or there issue like carrying documentations which means has a lot of services."(Interviewee from industry)

4.2.10 Industrial manufacturing regulations/legislations that hinder local pharmaceutical capacity from developing

Manufacturers mentioned regulations that hinder the local pharmaceuticals industries in Tanzania. One manufacturer claimed that there was a contradiction in the definition, between Tanzania Food and Medicines Authority (TFDA) and Government Chemistry Laboratory Agency (GCLA) as to what should be considered as a pharmaceutical ingredients and an industrial chemical. This lack of clear definition has tax implications that may adversely affect the support and promotion of local pharmaceuticals industries in Tanzania. The respondent stated that they were paying 0.5% free on board (FOB) for (Pharmaceutical Ingredients that fall under the category of industrial chemicals) to GCLA and were getting 2% FOB exemption from TFDA for those fall under the category of Active Pharmaceutical Ingredients (API) during the importation of chemicals for the production of the essential medicines for the Tanzanians. This situation may lead some of their pharmaceutical products to be very expensive in the local market rather than imported finished products and cause a strong competition to the local pharmaceuticals industries. With regard to complying to Good Manufacturing Practice (GMP), the majority of the manufacturers were happy to comply to GMP although so far only two of the local manufacturers, namely TPI and Shelly's have complied to GMP. The majority of respondents said that GMP requirements were necessary to be observed because medicines are used by people therefore a serious control in medicines productions will be the only way to ensure public health safety. Majority of local pharmaceuticals industries manufacturers were ready to meet the GMP compliance the problem was lack of sufficient capital to run their industries and lack of support from the Government for them to develop. The following contention summarizes the information from one of our respondent.

"One chooses what business she/he wants to deal with, if you go to the pharmaceuticals manufacturing and marketing you know that it is a regulated

business so you will not enter if you have a problem with registrations. We are geared and we know what the requirements are" (Interviewee from industry).

4.2.11 Industrial manufacturing policies that hinder local pharmaceutical capacity from developing.

The manufacturers, MOSHW and the TFDA claimed that the National Medicine Policy was in place since 1991. This policy aims at ensuring rational use of medicines, promoting and supporting productions of medicines to produce essentials medicines so as to make Tanzania self-reliant as well as recognizing the use of traditional medicines. Most of the respondents suggested that this policy did not boost the development of local pharmaceuticals industries in Tanzania. What are required are friendlier policies for the reductions of taxes on the importation of raw materials import. They claimed that the current policy was only documented but was not used to solve the challenges that were hindering pharmaceuticals industries from developing.

4.3. Discussion of the findings

The discussion of the findings is in line with the three research objectives that composed this study.

4.3.1 To evaluate opportunities present in the Pharmaceutical Manufacturing sector in Tanzania.

During the survey the respondents were asked types of products do the company produce, the research findings show that 15 (37.5%) of all respondents said syrups, while 10(25%) of all respondents said ophthalmic and ear product and 15(37.5%) of all respondent said infusion, topical preparation and tablets together with capsules, Therefore in this study it entail that the company produce more syrup products compare to other products which is produced in less amounts and need to increase efforts to produce more drugs for community use. This is supported by MSH 2001, Most of the pharmaceutical production done in the Tanzania local industries concentrates on less sophisticated medicines such as simple antibiotics, cough and cold preparations, analgesics and antipyretics, sedatives, nutraceuticals,

antihelmintics and antimalarials (MSH, 2001). More technologically sophisticated pharmaceutical products like Intravenous (IV) fluids, injectables, and more advanced antibiotics like cephalosporin are imported, as our local industries, still lack the ability to produce them (Mhamba et al, 2010).

Least developing and developing countries need to consider whether it is in their best interest to produce drugs domestically or import them from existing generic producers, such as those in India. The make or buy dilemma weighs which strategy would be most cost effective considering the low prices that must be matched by domestic manufacturers. There is compelling evidence on both sides; some research presents a case for affordable drug production in developing countries while others argue that it makes little sense economically, as such initiatives are most often not reliable and do not reduce prices . On the 'Buy-Side', affordability is a key concern. There are a number of measures developing country governments can utilize to increase the affordability of imported drugs. These include generic competition, negotiation with patent holders and bulk procurement. On the 'Make-Side,' public health interests, economic interests and technological developments (i.e. manufacturing capacity) should be addressed. Domestic manufacturing also does not guarantee greater stability in supply, a key component of access to medicines. Despite this, there are compelling arguments that it brings benefits in addition to price reduction. Domestic manufacturing keeps money in the economy, by employing people and investing in infrastructure and facilities. Backing this, the African Union argues that domestic drug production develops the appropriate industrial and technical infrastructure that can enhance long-term health security, self-sufficiency, employment, foreign exchange, in addition to access to essential medicines. In other words, local manufacturing potentially can bring economic and symbolic gains to a country.

Even though that the Tanzania pharmaceutical manufacturing existing more than 15 years but still not cover the demand of drugs in the country only produce for 30% and remain of the percentages that is 70% of all drugs are import from abroad which is dominate by china and India compare to other countries. According to Mhamba

and Mbirigenda, (2010), Tanzania imports about 70% of the national drug requirement and local production accounts for about 30%. The pharmaceutical sector in Tanzania consists of eight manufacturing industries all producing generic pharmaceutical products using *imported* active pharmaceutical ingredients (APIs). Most of the APIs are imported from India and China. Pharmaceutical products from India dominate the share of drugs in the local market registered by the Tanzania Food and Drugs Authority (TFDA). Tanzania lacks a coherent policy strategy for the development of its industry. Moreover, pharmaceutical patent enforcement is weak and investment in science and technology is stagnant, a scenario common in many developing countries. This provides little incentive for industry to invest in local manufacturing. Tanzania's technology transfer agreement was undertaken by a partly state owned company without whom prequalification of its drugs, another disincentive for private investors.

4.3.2 To find out the level of competitiveness and survival of Pharmaceutical Manufacturing Firms in liberalized business environment.

During the survey the respondents were asked if the company open to competitors; most of respondents agreed that the company compete with other industries on costumers, 36(90%) of all respondents said yes while only 4(10%) of remaining respondents didn't agree if company compete. Manufacturing firms must examine to identify the level of competition after trade liberalization. Perception of firms to the intensity of competition within their industry and performance trends of firms (sales, export, profit, average costs, and capacity utilization) for a period of a year. Firms Response indicates the competitive strategies and methods that the pharmaceutical manufacturing firms have adopted to respond to trade liberalization and to improve on their performance. The Competitive strategy in the market, Strategies implemented to improve firm performance, Product and Process development.

In another study show that 20(50%) of all respondents were asked that the intensity of competition within the Pharmaceutical industry in the Trade Liberalized era said is high while 10(25%) said moderate high, 5(12.5%) of respondents said moderate low and 3(7.5%) respondent said average, therefore in this study it entails that the

intensity of competition within Pharmaceutical industry in the trade Liberalized is high also according to Mhamba and Mbirigenda, (2010), Tanzania imports about 70% of the national drug requirement and local production accounts for about 30%. The pharmaceutical sector in Tanzania consists of eight manufacturing industries all producing generic pharmaceutical products using *imported* active pharmaceutical ingredients (APIs). Most of the APIs are imported from India and China. Pharmaceutical products from India dominate the share of drugs in the local market registered by the Tanzania Food and Drugs Authority (TFDA).

Production scale is a significant disadvantage for an LDC manufacturer when attempting to reach economies of scale. The facility funded by the European Commission is designed to manufacture 100 million units per year. This is in contrast to the existing 500 million tablets per year capability for Tanzanian firms and 1.2 billion tablets per year for South African and Indian firms. Local manufacturers also face additional costs which are not as great a concern for multinational generic firms. Because they do not have primary production capacity, the cost of importing APIs must be considered. These play a much smaller role for integrated generic manufacturers. Packaging material is another supplementary cost. Though no taxes are paid for API or intermediates imports, they are paid for the packaging materials. This can result in higher taxes for local firms than for importers. Import costs (freight costs) themselves, often considered a strong area of savings for local firms, only accounts for 4% of the 25% difference in Tanzanian and Indian generic firm production costs .

4.3.3 To determine challenges facing Pharmaceutical Manufacturing industry in Tanzania

During the survey the respondents were asked to mention the challenge**s** facing the pharmaceutical manufacturing sector in Tanzania 10(25%) of all respondents mentioned higher operating cost and shortage of capital which is equal to 25% of all respondents, while poor government support mentioned by 22.5% of all respondents, 20% of all respondents mentioned shortage of labour skills and only 7.5% of the respondent mentioned poor infrastructure as challenges facing manufacturing in

Tanzania, therefore in this study it implies that major challenges in manufacturing pharmaceutical in Tanzania were higher operating cost and shortage of capital , The study by Lall *et al.* (1995) noted that although external shocks and inappropriate policies have influenced the performance of African industry, the widespread absence of competitiveness and technological dynamism is also explained by other constraints related to the lack of capabilities needed to set up modern industry and operate it efficiently. Overall, little attention was given to the need for supportive policies, which could complement market forces in ensuring technological dynamism and manufacturing competitiveness.

4.3.4 Governmental issues

From the study it was seen that many of the challenges as perceived by the local manufacturers were associated with government issues including, the government's lack of commitment in implementing production friendlier policies, lack of provision of supportive infrastructure and unreliable utilities such as water and electricity non provision of skilled human resources such as industrial pharmacists, lack of accessory industries, insufficient government support and Port delays. Manufacturers and respondents from the MOHSW stated that poor roads and communications services appear to be one of the challenges that were facing local pharmaceuticals industries in Tanzania. These finding are similar to those of Mhamba R 2010, which found that, access to medicines and pharmaceutical manufacturing was affected by the poor quality of physical and social infrastructure. The lack of good roads, sufficient harbours, airports etc, is national problems that are not unique to the pharmaceutical industry alone. On the other hand the issue of public unreliable utilities such as water and electricity are issues that can be tackled almost immediately. It is true that irregular supplies of water and electricity, adversely affect the manufacturing cost of essential medicines in Tanzania, as local manufacturers have to seek for alternative electricity and water sources that are costly.

The issue of high operating cost due to reliable utilities is not unique for Tanzania. In a Study done in Uganda, it was found that the high cost of energy made it difficult for local companies to realize their full manufacturing potential. They were often forced to take tactical measures such as producing only at times when power is

available from the national grid. The power interruptions also create wastage of reagents and other chemicals that are used in the quality control labs when the tests have been interrupted (Mohamed N, November, 2009). Furthermore access to clean water is critical to achieving GMP, which ensures quality of essential medicines as well of their competitiveness in the global market.

Lack of sufficient number of experts and appropriate skilled human resources in the different field is probably a genuine reason that may contributes in delaying the capacity development of our local pharmaceutical industries as reported by the manufacturers and also this finding is comparable to a study by Mhamba R.M and Shukurani Mbirigenda in 2010. The manufacturers complained that they incurred cost for providing training for the local employees at different institutions within and outside the country for them to acquire the required industrial skills for the production. This was despite, the efforts made by the government to establish several training institution related to pharmacy e.g. St.Luke Foundation in Moshi, Bugando University and, St John University – Dodoma and increasing the enrollment at Muhimbili University of health and allied Sciences. Nonetheless all of these institutions are more bent on producing community and hospital pharmacists rather than industrial pharmacists. This matter is reflected by the fact that to date that there is only one university in Tanzania offering a Master degree industrial pharmacy and only two places namely St. Luke foundation in Moshi the R&D Laboratory under Action Medeor at MUHAS School of pharmacy that are offering diploma and CPE in industrial pharmacy respectively.

What is even more unfortunate is that the majority of the students attending industrial pharmacy courses at these places come from Kenya, Uganda and other neighbouring countries. This is probably due to fact that the governments of our neighbouring countries have prioritized local pharmaceutical production. It is clear from the above findings that Tanzania may have the expertise in industrial pharmacy but is not harnessing them internally to facilitate the growth of its local pharmaceutical industry. As a result in future Tanzania may remain far behind in terms of competitiveness in the pharmaceutical manufacturing industry as compared to other

countries in East Africa Community (EAC). Inadequate government support was also reported as a challenge in the development and growth of the local pharmaceutical industry. The respondents claimed that they ran their industries without government support, especially with regards to reduction in taxes and duties on imported packaging and raw materials required to produce essential medicines.

The manufacturers also claimed that the government had not taken any real initiative to encourage investment in the pharmaceutical industry. These finding are comparable to two previous independent studies done by Aghaibiam 2006 and Bate 2005 respectively. The lack of government support may be genuine challenge for our local manufacturers, especially when one considers that 3 out of 7 pharmaceutical industries in Tanzania namely KEKO, TPI and TANZANSINO are being financially assisted by the government. However these industries have not shown any significant signs of developing their manufacturing capacity of essential medicines despite this assistance. On the other hand however, the government has made some steps in supporting and promoting our local pharmaceutical industries including establishment of the TFDA and MSD. TFDA was established to ensure the local pharmaceutical industries are able to comply with GMP and thus assure the production of quality generic essential medicines. The government has been supportive by providing GMP training through TFDA and been leant by providing local manufacturers a grace period of 10 years to attain GMP requirements, in recognition that this is a costly and time consuming process. Thirteen years have now passed since TFDA required our local manufacturers to comply with GMP standards, so far only two industries have complied (TFDA report 2010).

Nevertheless all local manufacturers are still being allowed to produce, sell and advertise their pharmaceutical products despite non compliance with GMP. In addition to this in 2003 the government through an amendment of TFDA's registration regulation for human medicines food and cosmetics, provided special consideration for locally produced generic products in the registration process even if the local manufacturers had not attained GMP standards. To top it all the TFDA guidelines on importation of Active Pharmaceutical Ingredient were modified so that

the local manufacturers were given exemption of 2% on FBO and MSD which operates on tendering system was directed to ensure that local manufacturers products were given 15% domestic preference equalization factor during tender bidding so as to increase the chances for local manufactured products of winning the bids.

All these measures clearly suggesting that the government is actively supporting the local manufacturers to grow. Financial stability is a prerequisite factor in the development of any type of a business including the pharmaceutical industry. The manufacturers reported that they were operating on banks loans which were not sufficient to run the industry and that the banks charged high interest rates. Lack of access to commercial credit through the local banks is deterrent of the growth of local pharmaceutical industries. High bank interest rates (over 15%) tend to marginalize local investors by reducing their capability to borrow as was shown in the study done by Mhamba R.M and Shukurani Mbirigenda 2010. Lack of accessory industries to support the pharmaceutical industry was perceived as a challenge by some of the local manufacturers. The lack of accessory industries to support the pharmaceutical industry is a challenge that has not featured in other studies done. However the presence of accessory industries is a very crucial element in furthering the development of pharmaceutical industries.

The majority of our local manufacturers perform what are known as secondary manufacturing processes i.e. the mixing of active with non-active ingredients. These processes are less complicated and are less expensive. They do this to avoid the high cost involved in setting up primary manufacturing industries that are concerned with the production of the active, non-active ingredients, as well as the final formulation of the pharmaceuticals. Even though our local manufacturers mainly perform secondary manufacturing these process are still expensive as they rely on the importation of raw materials including active ingredients from abroad. Local manufacturers are forced to import raw materials because of the lack of accessory chemical industries in Tanzania that can support the local manufacturers to produce quality raw materials for their pharmaceuticals production. Some manufacturers

reported that delays of raw materials from Dar es Salaam port due to bureaucratic clearing procedures hinder the production of essentials medicines.

They claimed that it took between 1-3 months to clear raw materials from the ports. As a result they lost income due inability to manufacture their products and failure to deliver their products customers. Moreover, the inability to clear raw materials at the ports results in that the raw materials are kept in appropriate conditions for a long time, which in turn ultimately may affect the quality of the finished product. This challenge however, is not unique to the pharmaceutical industry. Port delays are phenomenon that affects all industries in Tanzania. As port delays are a national problem the government should intervene to facilitate reduced bureaucracy when clearing pharmaceutical ingredients as a means to boost the local industries. The lack of implementation of government policy has been found to be the problem not only in Tanzania but also in other neighbouring countries. The manufacturers, respondents from the Ministry of Health and Social Welfare and TFDA reported that the national medicine policy was in place since 1991. This policy aims at ensuring rational use of medicines, promoting and supporting productions of medicines to produce essentials medicines for the country to become self-reliant. This is line with the findings of study done in Uganda which showed that the government's policy to promote local manufacturing of pharmaceutical products lacked a proper legislative framework for its implementation (Mohamed, 2009)

4.3.5 Local Manufacturers Issues

Low price of imported medicinal products from abroad was also perceived by most of the manufacturers to be a challenge to their development. This perceived challenge may be partially true when you only refer to the study findings of Taylor et.al 2009 and Mohamed N 2009; that found that medicines produced by smaller companies were more expensive than those produced by transnational companies because they cannot benefit from economies of scale (whereby a producer's average cost per unit falls as scale is increased) and that local industries face unfair competition particularly with regard to when comparing the price from imported pharmaceutical products from countries such as India and China respectively.

This may however not be the case for the products produced in Tanzania, if one refers to study done by Mackintosh and Mujinja in 2008. Their study which compared average rural selling prices of medicines by country of origin in rural areas of Tanzania, found that there was no significant difference in the average price of medicines for medicines made in India compared to the same medicines made by African and European manufacturers; even though Indian firms are internationally regarded as low cost suppliers of essential medicines. What is evident from the above findings is that local pharmaceutical manufacturers in Tanzania need to understand that there is little impact on the price differences between their products and those that are imported. What they need to focus on is the real issues behind why customers prefer imported products over the local ones. One factor that may be affecting sales of local products could the issue of the quality of local products as compared to the imported ones. Compliance to GMP is the best approach to ensure product quality. Most manufacturers in this study have not complied with GMP and did not consider it a challenge. This is surprising as GMP compliance is an exercise that is time consuming and expensive. The facts that most manufacturers do not take GMP compliance seriously, this may be the result of the fact that their low quality products adversely affect their sales (Taylor et.al, Sept 2009). A study done by Risha P. in 2003 found that a number of Tanzanian drug formulations for paracetamol, acetylsalicylic acid, diclofenac sodium, metronidazole, sulfadoxine/pyrimethamine and chloroquine failed in stability testing and drug release studies.

CHAPTER FIVE

SUMMARY, CONCLUSSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides the summary of the dissertation, conclusion and recommendations arising from this study for future interventions, as well as for further research.

5.1 Summary of the study

The aim of the study was to assess how Tanzania Pharmaceutical Manufacturing firms responds to Trade Liberalization the case study of Tanzania Postal Bank Include the specific objectives or research questions, the sample size, sampling methods you used, data collection methods you used briefly.

5.1.1 Summary of the Study findings

A total of 40 respondents participated in the study; in table 1 above indicates that the majority of the participants were male 25 (62.5%) while 15(37.5%) were female. The minimum age of respondents was 30 years and the maximum age 60 years. Most respondents were between the ages of 25 and 49 years (66%). More than half (75%) of the respondents were marriage. The study showed that nearly three-quarters of the respondents (62.5%) had a short duration of service at this pharmaceutical. With regard to level of education, 75% of the participants were in possession of a diploma and certificate while 12.5% had a university degree. The larger proportion was technician and others (50%) while the remaining 12.5% were management and support staff includes doctors. Therefore in this study it implies that majority of the staff working in this industry were technician compare with other staff which is in low in number.

The study findings indicated that the majority of pharmaceutical industries in Tanzania are private industries and three industries are in joint venture between the government and local entrepreneurs i.e. KEKO, TPI and TANZANSINO. Two of the four private industries are joint venture with foreign companies' i.e. Shelly's and ZENUFA**.** The study also revealed that most pharmaceutical industries concentrated on producing non sterile generic pharmaceutical products i.e. tablets, capsules, creams and ointments and liquids. TPI was the only industry that produces antiretroviral (ARV's). None of the local industries produce sophisticated pharmaceutical products like Intravenous infusions (IV), injectable and other sterile products such as eye and ear drops, despite endemic diseases such as malaria; cholera can be treated using IV infusions and strong antimicrobials, therefore in this study it implies that Tanzania pharmaceutical manufacturing firm are private institution firm which manufacturing drugs in the country and export abroad.

5.2 Conclusion

This study has identified a number of challenges that are hindering the development of the Tanzanian pharmaceutical manufacturers to increase their capacity to manufacture essential medicines. It is clearly evident from the results of this study that our local manufacturers are a long way from attaining maximal production capacity of essential medicines. However it is possible from them to increase their capacity if both the government and the local manufacturers themselves put in, collective efforts to rectify the barriers that concern them individually. On the part of the Government it will only be able to address all its challenges if it will involve all the stakeholders of pharmaceutical manufacturing. Linking the Ministry of Ministry of Health and social Welfare (MOHSW) and the Ministry of Industries and Trade with other major stakeholders of pharmaceutical manufacturing such the Ministries of Lands, Education, Infrastructure, Agriculture etc, will ensure the development and implementation of policies and regulations which will facilitate growth and development of our local pharmaceutical industries. Collaboration between government ministries and agencies will ensure implementation of policies, a constant supply of inputs, such as energy, clean water, skilled expertise, good infrastructure for industrial development and advanced technology. In addition

compliance of all local manufacturers to GMP standards will ensure the production of quality products and thus make them locally and internationally competitive assuring their sales and growth.

5.3 Recommendations:

1) The study recommends the Government formulate a clear plan of action to ensure skilled staffs are available for pharmaceutical manufacturing, by facilitating that the Schools of Pharmacy in the country enroll more students and revise their curricula accordingly to incorporate industrial pharmacy modules. The government should promote industrial pharmacy and industrial pharmacy courses by reviewing the current undergraduate Pharmacy curriculum to provide more training and exposure industrial pharmacy, or by considering prolonging the current Bachelor of pharmacy program to five years. The fifth year could be year of specialization in either industrial pharmacy of clinical pharmacy. The graduates of this program would be awarded a Doctor of pharmacy (Pham D) degree or Masters of Science Degree in Industrial Pharmacy. This will guarantee production of competent pharmacist in different fields and automatically increase the number of skilled industrial pharmacists and alleviate the human resource gaps in the pharmaceutical industries

2) The study recommends the government reformulate its KILIMO KWANZA policy to promote the cultivation of medicinal plants, and other plants that can be used to make raw materials for pharmaceutical manufacturing. This will also facilitate the establishment of accessory industries to process these raw materials into active and non active pharmaceutical ingredients. Currently the government has put much emphasis on KILIMO KWANZA to alleviate poverty and hunger by promoting agriculture for production of food. Instead of only concentrating on alleviating poverty associated with hunger it should direct some of the resources for KILIMO KWANZA to booster the development of accessory chemical industries that could supply the local pharmaceutical industries. For example the commercial cultivation of ***Acacia Senegal*** **(L.) Willd,** an indigenous tree that can be used to extract gum Arabic. Gum Arabic is used extensively in pharmaceutical preparations, inks, pottery pigments, water-colors, wax polishes, and for dressing fabrics by giving

them luster. Pharmaceutically it is used mainly in the manufacture of emulsions and in making of pills and troches (as an excipient). Commercialization of this tree will facilitate the production of gum a useful product of the pharmaceutical, cosmetic, plastic and food industries. It will at the same time boost the development of accessory chemical industries required to process the raw gum. These accessory industries will create jobs and foreign revenue from the export of these products to pharmaceutical and other industries outside Tanzania. The jobs and revenue generated will contribute to poverty reduction through industrialization and assist Tanzania to achieve its MDG. The Government should thus collaborate with the Institute of Traditional Medicine (ITM) and pharmaceutical manufacturers to identify what are the plants that can be commercialized as strategy to promote the growth of our local industries in the production of essential medicines.

3) The study recommends that TFDA enforces its regulation to ensure local manufacturers become GMP compliant, to ensure the quality of locally manufactured medicines plus so as to make sure they remain globally competitive. Thus for local manufacturers to be competitive they will need to strive to comply with the minimum standards of GMP. Enforcement of the TFDA ACT of 2003 which requires GMP compliance of local manufacturers will ensure that the medicines on the market are consistently of good quality. This may positively affect local consumer perception towards locally manufactured generic products considered currently a challenge to the development of our local industries the study recommends the government considers a multi-sectorial approach to develop a newer policy for promoting pharmaceutical manufacturing and an implementation framework that will cater across several government ministries and agencies to facilitate its implementation.

Collaborative efforts between the Ministries of lands, Finance, Education, Energy, water and environment, Agriculture and Infrastructure to reformulate and implement this policy. Bringing together all stakeholders of pharmaceutical manufacturing will facilitate that the government can effectively pull resources to provide skilled human resource in industrial pharmacy, improved infrastructure and sufficient land for the expansion of pharmaceutical industry, reliable public utilities, financing and

attractive for tax packages. However there needs to be a clear framework on how to implement this modified policy in order to promote development of our local pharmaceutical industries.

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APPENDIX-1

Part I: Socio-demographic characteristics of the participants

1. Sex …….
2. Age …….
3. Marital status …….
5. Job title ……..
6. How long have you worked at this manufacturing pharmaceutical ……
7. What is your level of education? …….. ……
8. What is the job title?.....

General Knowledge on pharmaceutical manufacturing

1. Name of the Company.....
2. Type of ownership:
   a. Private
   b. Government
   c. Both Private and Government
3. When did the company start operation?
   a. Less than 5 years
   b. 5 years to 10 years
   c. 10years to 15 years
   d. More than 15 years
4. What forms of products do the company produce?
   b. Injectables
   c. Topical preparation
   d. Infusion
   e. Ophthalmic and ear products
   f. Syrups
   g. Others (mention)
5. Did the company change type of products produced n the past 3 years?
   a. Yes
   b. No
6. If yes, which product replaced the other? .....

.....

7. What reason(s) necessitated the change of product produced at your factory?
   a. Lack of skilled labour
   b. Lack of market
   c. Absence of raw materials
   d. Increased competition
   e. Other reasons (mention).....
   .....

8. What form of product (s) has never been produced at your factory?
   a. Tablets and Capsules
   b. Injectables
   c. Topical preparations
   d. Infusion
   e. Ophthalmic and eye preparation
   f. Syrups

9. What are the reasons for not producing products mentioned in question 8 above?
   a. Lack of skilled labour
   b. Lack of markets
   c. Absence of raw materials
   d. Fear of competition
   e. Failure to comply with the standards of quality
   f. Other reasons (mentioned).....
   .....

10. Are there opportunities for Pharmaceutical manufacturing sector in Tanzania gained from Trade Liberalization?
   a. Yes
   b. No

11. If answer in question 10 is Yes what are those opportunities
   a. Export
   b. Information

c. Technology

d. Linkage with other Partners

e. Other opportunities (Mention) .....

.....

12. What are the challenges facing the manufacturing sector from Trade Liberalization in Tanzania?

.....

.....

13. Most of your customers are (Tick one)

a. Local

b. Regional

c. International

14. For the past 3 years, how do you rate business condition?

a. Increasing

b. Same

c. Decreasing

15. Is your company open to competitors?

a. Yes

b. No

16. What is the intensity of competition within the Pharmaceutical industry in the Trade Liberalized era?

a. Low

b. Moderately low

c. Average

d. Moderately high

e. High

17. What is your perception on the impact of tariff on your competitive import?

a. Low

b. Moderately low

c. Average

d. Moderately high

e. High

18. What is your perception on the impact of tariff policy on your imported input?

a. Low

b. Moderately low

c. Average

d. Moderately high

e. High

19. Which of the following has been your firm's important response to trade liberalization?

a. Lobbied for increasing government protection

b. Shift to other sectors other than Pharmaceutical manufacturing

c. Downsizing number of employees

d. Raising productivity

e. Develop new products

f. Move into export market

g. Improving market and sells

h. Improving manufacturing process

20. What are the challenges facing the pharmaceutical manufacturing sector in Tanzania?.....

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